Stay venerable Bard in glory sleep
Since even Chapman must thy praises speak

Wm Elmer

Wm Elmer

Notes on Surgery,

taken from the Lectures of

Philip Syng Physick M.D.

Professor of Surgery

in the University of Pennsylvania

by

William Elmer, -

(Student in Medicine,)

During the winters of

1808-9-10.

Finis 1810

Index

Index.

Index.

Page

Index. Page

Index

Surgery.

I. Of Accidents

The most simple accident that occurs is a separation of a part without any external violence.

The least is that in which a vessel is ruptured. In some cases in which several vessels are ruptured by contusion the extravasated substance is effused into the blood. This effusion is called hæmorrhagia. Ecchymosis. The best and most effectual method of removing the effusion which occurs by the application of cold water. When small drops the effusion should be made to burst and the effused blood be removed with the finger. Sometimes the blood is not removed by absorption, but in other cases, suppuration will not take place, and the effused blood instead of coagulating remains fluid, the tumor and it is then the bowels which be to reset. If the effused blood coagulated a hard tumor is formed. The means of removing it is by the application of warm bandages.

Surgery.

I. Of Accidents.

The most simple accident that occurs is a concussion of a part without any external opening.

The next is that in which a small bloodvessel is ruptured. In some cases in which several vessels are ruptured by contusion, the cellular substance is effused with blood. This effusion is called by Surgeons an Ecchymosis. The best and most effectual method of removing this effusion (when recent) is by the application of cold water. If after several days the effusion should continue, a puncture should be made with a lancet, and the effused blood let out. In some cases absorption takes place, and it is removed; but in others again, absorption will not take place, and the effused blood instead of coagulating remains fluid, in this last case it is that the lancet should be used. If the effused blood becomes coagulated a hard tumour is formed: the best means of removing it is by the use of a compress and bandage.

II. Of Wounds.

Wounds differ from Accidents by having an external opening. The first thing to be done in superficial wounds, is the promotion of union by the first intention. When this can be accomplished it is unattended with pain. When union by the first intention or what is called resolution, does not take place, inflammation is excited: of which I am in the next place to speak.

1. Of Inflammation.

The simple act of Inflammation cannot be considered as a disease: but it is sometimes connected with disease, as in Scrophula. Lues venerea &c. —

I shall in the first place begin with observing the nature and effects of Inflammation in its different stages. In order to distinguish inflammation a person should be acquainted with its phenomena.

When inflammation is about to ~~com-~~ commence in a part, there is an increased ~~sen-~~ sensibility in the part, attended with heat, redness, swelling, and pain from the slightest touch. Its remote causes are either chemical, mechanical, or from Fevers.

The chemical causes are, heat, cold &c.

The mechanical are bruises, burns, caustics, issues, setons, and blisters.

Inflammation

Inflammation is sometimes a cure in certain diseases. It is excited sooner in some people than in others. I once bled a Lady in this City, and having made the Orifice longer than I intended to (it was about half an inch) no inflammation was excited for two or three days. I was therefore obliged to keep a compress upon it to prevent hemorrhage, & in about three or four days inflammation was excited and it very soon healed.

If three different persons were each wounded in the same part, from the same cause, and the same treatment pursued in each, they will not heal alike: one will perhaps heal by the first intention: in another inflammation will be excited in a high degree: and a third will perhaps end in Suppuration.

The same remote causes will produce phlegmonous inflammation in one person: and Erysipelatous in another.

Dr. C. Smith calls that kind of inflammation which attacks the cellular substance, phlegmonous; that which attacks the skin erysipelatous.

According to Mr. Hunter I shall divide inflammation into three kinds.

1. The Adhesive Inflammation: because in this the coagulated lymph, which is extravased, works vascular, causes adhesion to take place.

2. The Suppurative; because the inflamed vessels secrete pus. —

3. The Ulcerated; because in this kind the external surface is lost and an ulcer is formed.

Adhesions originate in the small vessels, from them it spreads into other parts: and more blood flows through the inflamed part, than that which is healthy. The diameters of the inflamed vessels are considerably enlarged. The coagulated lymph appears to undergo some change in passing through the inflamed vessels. An alteration in the colour of the part is one of the signs of Mortification.

The swelling in inflammation arises from the enlarged diameters of the vessels, and from the coagulated lymph. It is generally attended with more or less pain. The heat of an inflamed part will never rise above the heat of the diaphragm which is ascertained by placing the bulb of the thermometer near the Circulation.

A man who having been operated upon for a Hydrocele of the Scrotum the Physician thrust the bulb of the Thermometer between the testis and tunica vaginalis, it arose to 92°: after inflammation was excited, he introduced it again, it then arose to 98°. The heat of the body sometimes arises to 104° from the effects of disease.

The effects of inflammation varies in different parts. If it effects the skin only; a considerable itching is produced.

produced. If the theca of the tendons become inflamed it is attended with violent pain, & sometimes death.

Violent inflammation wherever excited is accompanied with symptomatic fever a hard, frequent and full pulse, and with sizey blood.

I was desired to visit a Man some time ago, who was supposed to be dying from a bar of iron falling upon the external angle of the Tibia, which excited a violent inflammation: he was very soon relieved by giving him a dose of Laudanum, and applying a poultice of bread & milk with Laudanum in it, to the inflamed part: and soon after got well.

When inflammation arises in consequence of a local disease, an attempt should not be made to heal it by the first intention: except it be in those places where from its situation, injury may be done to some vital parts: in that case the anti=phlogistic regimen should be strictly used.

Adhesive inflammation after having extravasated coagulable lymph terminates spontaneously; it is then said to terminate by resolution. The next mode in which it terminates is by a large secretion of serum. This is proved by applying a blister over an inflamed part; a large quantity of serum is secreted by the action of

the

+ And an elevated position of the part affected

the blister upon it, and the inflammation soon ceases.

Hemorrhage taking place in the inflamed vessels sometimes stops inflammation. I once attended a person with a violent inflammation in one of his Eyes; and after having used a great many remedies, such as bleeding, blistering, purging, &c. without effect, it was cured by a spontaneous hemorrhage taking place from the bursting of an Artery, after having bled nearly a Quart. it stopt, & the inflammation soon subsided.

The remedies necessary to be made use of in the cure of Adhesive Inflammation are.

I. Such as act generally upon the Constitution: these are, bloodletting, mercury, purging, low diet, antimonials, diluents, and rest.

II. Such as act locally or upon the part itself: these are, local bloodletting (if practicable) scarifications, leeches, and blisters.

1. Bloodletting, this is one of the most powerful remedies in reducing inflammation. The quantity of blood to be drawn, should be regulated, according to the violence of the Inflammation. It acts in two ways 1. By emptying the bloodvessels, and diminishing their action. 2. By emptying the bloodvessels it causes them to contract.

2. Purges,

a. When accompanied with fever general bloodletting should be used before local.

2. Purges. they are very useful in violent inflammation. They act either by reducing the fullness of the bloodvessels; or by creating nausea, produce sweat.

3. Mercury is a very powerful remedy in reducing inflammation. I was desired to visit a Lady some time ago, who had punctured the Cornea of her Eye with a large darning needle. I treated it at first with the usual evacuating remedies, viz: bleeding, blistering purging, and low diet; but without any effect. I then made use of Mercury, and as soon as the mouth became sore, the inflammation ceased and the Eye soon got well.

4. Low diet, Antimonials and Diluents, all have a powerful effect in removing inflammation.

5. Rest is a very material thing; it is impossible for inflammation to cease in a part that is liable to much motion. —

Of the Local Remedies. these are

1. Local Bloodletting: when it is practicable the opening of a vein or artery in or near an inflamed part, has been found very useful, and in some instances a certain cure.

2. Cold Applications, when there is great heat in the part; - Cold improperly applied, - that is when there is but little heat in the part occasions pain. The great object is to keep the part as easy as possible.

3. Preparations of Lead, diluted Spirits of Wine, Laudanum, vinegar and Sal Ammoniac

and

* this is essentially necessary when the pulse will not admit of general bleeding the blood by its specific gravity descends & reduces the inflamation very much.

(a) It is sometimes attended with nausea and vomiting. –

Sp. Mindereri, have been found very useful.

4. Fomentations and poultices of bread and milk, of linseed, and rye meal, have been used with success.

5. Blisters over the inflamed part, or in its vicinity, have an extraordinary effect in removing inflammation. They are generally most successful in punctured wounds. In some cases they are the only effectual remedy. A proper position of the part inflamed - which should be elevated

Of Suppurative Inflammation.

When inflammation puts on the appearance of suppuration, it is so violent in degree as not to admit of the cure by resolution; we must then endeavour to promote suppuration. When suppuration is about to take place in a part, the pain increases, the part becomes more red and swelled, (and is frequently attended with rigors which are succeeded by fevers) and an abscess is formed. An abscess may be defined a circumscribed cavity containing pus. -

Sometimes hectic fever is brought on, the symptoms of which are, debility of the whole system, small frequent and weak pulse, loss of appetite, (a) (Sometimes the appetite is increased,) costiveness at first, but at the conclusion a diarhoea comes on; the urine is high coloured, and deposits a copious sediment. It sometimes comes on in the form of an Intermittent.

Hectic

It is produced by Humulation from

Hectic fever generally attends suppuration of particular parts such as vital parts, and sometimes other parts as in white swel-lings of the Joints. It is supposed by some Surgeons that the absorption of pus is frequently the cause of Hectic Fever. This I do not believe, because I have often seen very large Buboes, removed by absorption without causing hectic fever. * Hectic has been re-lieved and sometimes cured by means of Issues near the diseased parts. This proves to that so far from stopping suppuration, in some instances we should encrease it. In diseases of the Joints if amputation is per-formed, the patient generally gets well.

When the pain of inflammation is very severe during suppuration, Opium should be given with Tartar Emetic, and a soft bread and milk poultice applied to the part.

In many diseases abscesses open of themselves, but in certain cases it becomes necessary to make an artificial opening. If an abscess is formed in a part, & fluctuation is perceived, if it does not seem likely to break very soon, an opening should be made.

Abscesses seated either in the Thorax, Abdo-men, Cranium, or in Large Joints, should be opened as soon as fluctuation can be felt.

In some situations, abscesses are attended with a great deal of pain, as in paronychia, in this case the pain is relieved by making an incision, and by Opium. –

(4) It had very much the appearance of Hernia.

I knew a Lady who was troubled with a violent pain in the top of her head, which arose from a collection of pus in the calf of the leg: a variety of means were used for it without effect, I then made a free incision into the abscess, and the pain immediately ceased.

I have known all the symptoms of Nervous Fever in two persons, which arose from abscesses about the ring of the Oblique Muscles.(b.) One of them died before the Abscess was discovered, The other mentioned that he had an Abscess, I made an incision into it, and he very soon got well.

Abscesses seated in the face should be opened early. Also those that are situated so as to impede respiration, should be opened as soon as discovered.

There are two ways of Opening Abscesses. viz: by Incision, & by Caustic.

Incision is the most expeditious. but some persons are so fearful of Instruments that we are obliged to have recourse to the other. to it,

Caustic, the manner of using it is to take a piece of the Caustic Alkali, or Lapis Infernalis, and rub it upon the part, where we wish to make the opening for two or three minutes, this causes a complete death of the part, and when it sloughs off, an opening is made into the Abscess.

Sometimes the process of Suppuration is stopped, & the pus is absorbed without sup-

-purating.

(a) The ulceration is generally produced by the action of the absorbents.

suppurating. Blisters have a very good effect in absorbing pus. I have very often seen pus absorbed in buboes by the application of blisters. Also in the Eyes by bloodletting and purging, and by the use of blisters.

Pus, when taken from an healthy ulcer, is nearly of the consistence of Cream, and of a light straw colour. Its specific gravity is greater than that of water. Pure pus is not in any way corrosive. Mr. Hunter says that the inflamed vessels partake of the nature of Glands and secrete pus. –

Of Ulcerated Inflammation.

In ulcerated Inflammation the whole substance is lost, and an ulcer is produced. (a) In some instances ulceration preceeds suppuration, in those cases suppuration does not take place till after ulceration. The process of Ulceration is always attended with inflammation: it is most commonly attended with pain, but in some instances there is no pain as in Scrophula.

Simple pressure long continued upon a part, caused an Ulcer.

Besides the common phlegmonous inflammation, there are other species, viz. 1. Erysipelatous, it is seated in the Cutis

vera

(e) It sometimes attacks the cellular substance.

(f) It is often of a bright red colour: and sometimes the face is very much swelled.

(g) I have seen it begin in the fore arm and extend itself over the whole body in a child.

(h) I have known erysipelatous inflammation attacking the Buttocks: to effect the cellular substance, and produce death throughout the whole cellular ~~membrane~~ for a considerable distance, although the external skin had not the appearance of any disease, except that it was of a dull red colour.

(i) In London bark is generally found most successful.--

Vera.(e) It is generally preceded by a shivering and hot fever; the inflammation is of a dull (f) red colour, vanishing upon pressure, spreading unequally, with a burning pain, & tumour scarcely perceptible, sometimes ending in de-squamation or vesicles of the Skin. It often spreads extensively over the whole body.(g)

It differs from the Adhesive inflammation because the inflamed vessels never secrete coagulated lymph, but serum only. When serum is collected it occasions small vesications, which generally terminate in ten or twelve days, and if favourable the cuticle peels off in small pieces like bran. (h) When it attacks the face it comes on suddenly, sometimes it is preceded by a sickness at stomach & fever, with ardent heat, tingling of the part, livid colour, itching & small pustules containing a transparent fluid, which when they burst, the fluid excoriate the surrounding parts.

The remote causes are nearly the same with those of the Adhesive Inflammation. It sometimes comes on spontaneously. The remedies for it are the evacuating and antiphlogistic remedies, they are very succesful if used before suppuration commences.(i) Wheat flour, rye meal, & blisters have been found to be very beneficial. I once had a case of erysipelatous inflammation of the thigh & leg which was removed by applying a blister first to the thigh and afterwards to the leg. Unctious and greasy applications are very hurtful

If

If suppuration takes place a sufficient opening should be made, or the pus will travel from one cell to another, and do a great deal of injury. —

Another species of inflammation is the

2. Œdematous. It appears to be apparently in the Skin; it is probable however that it goes farther, though it is impossible to find out its extent. The pain is not acute but of a hot, burning, kind: If the part is punctured it is sometimes apt to become inflamed. In a man aged 36 years whose legs and thighs were œdematous, a puncture was made near the knee, inflammation took place and it was some time before he got well. In anasarcous limbs it is sometimes brought on by distention: and sometimes it is excited by scarification.

There are two other kinds of Inflammation (viz.) carbuncle and Mortification, which I shall take notice of in another place.

Of Abscesses.

I. Mammary Abscess. It rarely happens that we can ever see the formation of this abscess, owing to nurses, supposing that they can cure it without any other assistance.

It

(a) But it most commonly happens during the first three months after parturition

(b) Local bloodletting does not answer without general bloodletting is first used.

It is seated either in the glandular part of the Breast, or in the cellular and adipose membrane. When it is seated in the former the secretion of milk is stopped, and it is attended with a shooting, or dull pain in the part: by this the hardness is discovered, & the skin is of a red colour. It is sometimes preceded by chills and fevers. Women are subject to this inflammation as long as they suckle.(a) The pain attending it is sometimes so excruciating, that I have often heard women say it exceeded the pains of parturition.

The remote causes are 1. Drawing the clothes so tight as to press upon them too much. & contusion 2. Exposure to cold. 3. By allowing them to be distended too long with milk. Sometimes no cause can be assigned.

There is no disease so completely under our power, if called in at its commencement.

Mr. Pustamond extolls very highly a preparation of Sal Ammoniac and Vinegar, as a cure for this disease. I have tried his remedy but without success. The remedies which I have used and which I think are the most proper, are bloodletting, mercurial purges, vegetable diet, warm oil applied to the part, and if the patient sits up the breast should be supported by a handkerchief tied round the neck and under the breast. Leeches(b) should be applied to the part, and a bread and milk poultice with lead water. If after the proper evacuations, inflammation continues, a blister over the inflamed part, is

generally

× Taking great care to seperate the skin completely to the line at which it seperates from the parts beneath.

generally found very successful in removing the inflammation. Suppuration will scarcely ever occur in this case, if it does the abscess must be opened and a bread and milk applied to the part. When the abscess is deep seated between the pectoral muscle and the Gland, a small external opening should be made, and a small bougie should be introduced, which should be removed every two or three hours to evacuate its contents.

Inflammation in the integuments of the Brain, generally ends in Suppuration

II. Paronychia or Whitlow is another local inflammation, which by not being taken in time, causes a great deal of pain loss of a joint, sometimes of a finger and even death has been produced. It is seated on the extremities of the fingers, either under the cutis, in the adipose membrane under the true skin, in the sheath of the tendons or under the periosteum which covers the bone.

When seated under the cuticle the pain and inflammation are of short duration, and suppuration soon comes on. When the abscess is formed an opening should be made into it with a lancet; if the inflammation continues after opening it, the skin should be taken off and a solution of Saccharum Saturni applied to it.

When seated in the adipose membrane

it

Onichia Maligna is a disease attacking the ends of the fingers under the nail - it is attended with considerable inflamation - An application of equal parts of Corrosive Sublimate & White Vitriol powdered & put on in the form of powder - also a dossil of lint wet with Tincture of Myrrh has been attended with ultimate success - It is a harsh remedy, but has effected a cure when all other remedies have failed. —

Where a tumour arises under the Nail of the toe & produces an inversion of the Nail the same remedy has been successfully used —

Dr. D. S. Physick 1817

it is much more painfull, but when seated in the theca of the tendons, or in the periosteum which covers the bone, the pain is very acute, the swelling not very great but the hand and arm are generally very much inflamed. The best method of treating this is to make an incision down to the inflamed part, or to the Bone if the inflammation extends to it, and let it bleed untill it stops spontaneously, if the opening be large enough nothing more is necessary than to apply a little dry lint, or a poultice to it. If matter should travel along the hand and point at any place it must be opened. or if the bone be loose it should be extracted but not by force. —

It is very difficult to assign the cause of this disease. — — —

III. Psoas Abscess, it is situated in the cellular membrane, and surrounding the Psoas Muscle, or in its vicinity. The matter when deep seated is contained in a Cyst.

It sometimes comes without any remote causes being assigned, but generally after febrile diseases, sometimes mechanically from contusion, distention or overstretching of the loins. &c. The symptoms attending it are weakness of the thigh, heat and a dull pain at its upper end, the patient generally bends the

body

bends the body forward in order to relax the Muscles, the thigh cannot perform its rotatory motion, and the patient cannot stand upright. Months often elapse before an external tumour appears.

It generally forms in the Anterior & upper part of the Thigh near the hip, and sometimes low down on the Thigh, sometimes on the Back, and I have seen it very near the Anus. When near the Anus it is sometimes taken for a fistula in Ano; when on the Thigh for a Hernia or Bubo. In this abscess the colour of the Skin is not changed but it contains a large quantity of pus. I have seen more than two quarts run from it; and have generally found it attended with a carious state of the vertebra.

The first thing to be done if called in at the first stage of the disease is to prevent the formation of matter. This is to be done by keeping the patient at rest, by a low diet, bloodletting, cupping, leeching and scarifying the part; cathartics should be administered daily, and a blister applied over the part. If those means fail an issue should be formed by means of caustic applied near the loins.

If however through the neglect of these means, or by administering them too late suppuration comes on, and it is found necessary to open the abscess, it should not be done by a large incision, for the edges will not unite,

but

+ This is the method recommended by Mr Abernethy

but by means of a puncture, and that longitudinally with respect to the Thigh. Probes nor directors should not be introduced into the Orifice, because they would irritate it so much as to prevent union by the first intention, & also by rupturing the bloodvessels inside of the Cavity, the blood would pour into it, and stagnate there, & become very injurious. After evacuating at intervals for several days, it then may be opened by making an incision, and treated as a common abscess, by dressing it with lint and adhesive plaister. I have never effected a cure in this disease, because all the cases which I have had were attended with a caries of the Vertebra: but I have cured extensive abscesses in the Thigh by the above method.

A man aged twenty seven years in good health, had a tumour upon the upper part of the Thigh, which had been gradually increasing for nine months, there was no pain attending it, but a sense of heat in the part; when he laid down he said it disappeared, and when he stood up it appeared again; he was unable to assign any cause for it, it was increased by coughing, straining &c. On examining the tumour, I found by pressing upon the Abdomen, the tumour increased and by pressing upon the tumour a fluctuation was perceptible. I immediately punctured the abscess with a lancet, and a quart of pus of the consistence of cream

ran from it, I thought it best not to let any more run from it at once, I therefore closed the Orifice, and in about an hour afterwards opened it again, and another quart of pus was discharged, it was then dressed with lint and adhesive plaister. The next day he was quite easy untill five O'clock, when he became very restles, had fever and slight delirium, he was bled, and blistered which relieved him; the third day he complained of great weariness, sighed frequently but had no pain, ten ounces of blood were taken from him and all his symptoms were better; the fourth day fever returned again took six ounces of blood from him and applied a blister over the inflamed part, on dressing the wound no union had taken place; sixth day he was bled to six ounces. the incision became fistulous and discharged a considerable quantity of pus; issues were made on each side of the Spine & kept running for several months without any effect, he was at last seized with hectic fever, and died in about eight months from the time in which the puncture was made. On opening the body I found the lumbar vertebra carious, and the spine very much curved.

I proceed in the next place to treat of Of Burns and Scalds.

The effects of burns upon the constitution are various. If excessive heat be applied to

+ And he never complained of the least pain.

part, it causes an inflammation called a burn or scald. The inflammation will vary according to the different degrees of heat brought into contact, and the situation of the part in which it is placed. A burn on the head is worse than in any other part. If the cuticle only is burnt it will cause a separation of the cuticle; but if the cuticle & true skin are both burnt, a violent inflammation will follow, and a watery serum will collect under the skin, like a blister, and cause a separation of the Cuticle. If the cellular substance is affected the texture of the skin will be entirely destroyed. Burns in children & old people are often attended with great danger. In persons of a dropsical habit it often ends in mortification. A boy took it in his head one day to walk round a large chaldron of boiling water, at a soap boiler's, his foot slipped and he fell in, a person who heard the noise, ran and pulled him out instantly, but having his clothes on the water soaking through them burnt him very much before they could be got off of him; I was sent for immediately, I found him without any pulse; his extremities cold, very restless, & nearly insensible, he survived it only about six hours.

In the treatment of Burns I shall divide it into constitutional & local. —

If the inflammatory symptoms run very high evacuating remedies should be used such as bleeding, blistering, purging,

low diet, &c: But if they exist only in a small degree and attended with fever the other ~~antiphlogistic~~ remedies should be used. such as laudanum, white whey, nourishing diet, bark, bitters &c: & these should be continued untill inflammation & suppuration commences.

In the local treatment of burns a variety of remedies have been used. Inflammation from a burn differs very much from a common inflammation.

It differs from it

1. From the pain being a kind of burning pain, so much so as to induce the patient to believe that there is fire in it.
2. From its throwing out a fungous substance, & from its having no disposition to resolve.
3. From the cicatrix having a great tendency to contract. One of the best counteragents for this is Sp. Terebinth. and keeping the part in a proper position by a splint.
4. From burns being cured by remedies which we know would irritate common inflammation.

In those cases where the life of the part is destroyed, the patient does not feel much pain untill two or three days after, when inflammation takes place.

+ Many remedies have been used by different persons (viz) such as lime water & linseed oil, scraped potatoes &c but I believe these only act in soothing & allaying the pain & do not tend to heal the part at all.

+ The remedies most effectual in the cure of this disease are, vinegar, Spirits of Volatile Salt diluted, Spirits of wine, spirits of turpentine & bazilicon. A pleaister of Bazilicon softened with Spirits of Turpentine, is a most excellent remedy. If the cuticle is off the pleaister of Bazilicon & Turpentine must be applied to the burnt parts only, for if it touches the sound skin, it causes violent inflammation; owing to carelessness and inattention to this circumstance, among many Physicians, they have supposed ~~to~~ this remedy injurious. But I have always found it an effectual remedy, when applied as above.

A Gentleman clearing out his room one day, opened a drawer containing some waste paper, he took some of it out & threw it into the fire, there happened unfortunately to be some Gun Powder among it, which before he got away from the fire burnt his hands and face very much. I was sent for immediately and applied the Sp: Terebinth: and Bazilicon to the burnt parts only: the next day I found him quite easy, excepting the end of his little finger, which was very painful, owing to its not being covered with the pleaister. I applied the pleaister over it and he got well in a very short time.

If not called till several days after the burn happened the Sp: Terebinth & Bazilicon is the best remedy. Or if ulceration

takes

+ Gangrene takes place just before the death of the part.

takes place, and a fungous rises the same remedy may be used with pressure upon it. The black bazilicon has been highly re-commended.

Parts in contact sometimes suffer very much, from careless and inat-tention in applying suitable dressings.

If the fingers are burnt, pieces of lin-en or lint spread with the above plaister on both sides should be applied between them and they should be extended on a splint, also if the hand & fore arm be much burnt they should be extended on a Splint.

A child was brought to me some time ago, which having had his fingers very much burnt, and no pains being taken in dressing of them, grew fast together & the ends of the fingers had also grew fast to the palm of the hand: I was desired to cut them loose, which I did, but the child could never straiten his fingers, and could open the hand only about half way; thus he was made a crip-ple entirely from carelessness and inattention in the application of the dressings.—

Of Mortification.

Mortification is the complete and entire death of any part of the body. +

In commencing upon this subject I shall mention in the first place that the state

of

+ & heat gradually applied

of the system has a very great effect in determining upon its remote causes.

Intense cold or heat applied to a part causes mortification: when a part loses its life it also loses its heat.

Mortification is of two kinds the one without any inflammation, the other preceded by inflammation. The first arises from two causes 1. From a violent contusion or laceration of the parts. ~~The~~ Secondly arises

2. From an obstruction in the circulation of the blood in the limb.

When a part becomes mortified, the best thing to be applied to it is a soft bread and milk poultice moderately warm, and not heavy, which should be continued untill the mortified parts separate. If inflammation runs very high, it must be reduced by evacuating remedies. Moderate inflammation is salutary. If the system is depressed the Bark must be taken internally: and if attended with much pain Opium should be given.

When a part is exposed to intense cold it becomes painful, of a red colour, which if the cold be continued changes to a dark purple & the part becomes tumefied. When completely frozen the first application should be ~~from~~ applied, & afterwards immersed in spring water.

+ Mortification sometimes takes place 1. Without any evident cause.

The second kind of Mortification is that which is preceded by Inflammation. It arises 1. From the inflammatory action being very violent.

2. From

+ Described by Mr Pott

2. From a certain peculiarity in the inflammation.

Wine injected into the cellular substance, or urine effused into it produces violent inflammation & mortification.

There is a species of inflammation which takes place frequently in the toes of old people without any evident cause: it is not however always confined to old people.

The progress of this disease is very slow in some people in others very rapid.

I once saw this kind of Inflammation arise from a Gentleman scratching one side of his foot slightly, he applied some drawing salve to it which irritated it so much as to cause violent inflammation, & mortification shortly took place & he very soon died. —

Mr. Pott advises the use of Opium in this disease he says he succeeds much better with it than with the Peruvian Bark.

Scarifications should never be made upon the ~~complicated~~ mortified part. the dead parts should be let to separate of themselves.

Amputation should never be performed untill the dead parts have separated and the patient recovered a little from its effects.

From the earnest request of a Patient of mine in whom mortification having taken place upon the foot, and was proceeding up the leg, I was induced to amputate the leg, tho' contrary to my own opinion & that of two other Physicians who attended with me; yet the patient himself urged so hard that I ~~complied~~ did

did it. After amputation it went on very well for three or four days but in five or six days after mortification siezed the stump, and he died in a very short time. In taking up the arteries I found them so much ossified that I was obliged to break them between my fingers, before I was able to tye them so as to prevent hemorrhage.

Pressure long continued upon a part sometimes causes Mortification. This we often see take place over the os sacrum & hips in persons long confined to their beds.

The symptoms of Mortification are a burning pain in the part, red colour which after a while becomes livid, small blisters rise - sometimes becomes emphysematous, sensi- - bility is entirely destroyed, becomes black smells intolerably, and undergoes a putre- - factive fermentation. -

Pressure of the finger before death upon the part, leaves a white spot which after a while returns to its natural colour, if dead it keeps its colour. If the colour returns quick after pressure you have some hopes of its terminating favourably & vice versa.

Coagulation takes place in the living arteries as well as in the dead parts, if it did not there would be a constant hemorrhage.

The remedies for this kind of Mortification are divided into general & local.

Cordials

* Dr Physick has found the best effects in stopping the progress of Mortification from the application of a Blister — It is only useful however in those cases preceded by inflamation

3

Blisters above the mortified parts very successful in arresting mortification. I have used them with complete success in several instances.

Cordials, hot baths, oils, incisions, scarifications &c. should never be used, excepting under particular circumstances.

1. If the inflammatory symptoms run very high, the antiphlogistic regimen should be used as bleeding, blistering, low diet, purges &c. — If the patient be very weak such remedies must be used very cautiously.

2. If accompanied with much pain opium should be taken internally.

3. The ~~strength~~ of the patient should be supported with nourishing diet, and the Peruvian Bark as much of it as his stomach will bear. If the patient has been accustomed to use wine he should be allowed to drink it freely.

The local treatment is first to remove the exciting causes, and discharge the fluids a bread & milk poultice moderately warm, but not too heavy should be applied to the part.

× After the parts are dead, the fermenting poultice with charcoal, has very good effect.

The fator may be corrected by washing the parts with diluted Nitric Acid, in the proportion of about 3j of the Acid ℥iv of Water.

Of the peculiarities of Mortification independent of that which arises from inflammation. The first is

1. That kind which arises from the Small Pox, in which the inflamed parts slough out and leave considerable pits.

2. The

A third species is that which arises from Erysipelatous inflammation

2. The Carbuncle. The inflammation which first takes place in this is of a brown colour, the surface is flat, and the pain of a burning kind. A lady who had a carbuncle on her back was asked by me what sort of pain she felt, she replied, that it felt just as a warming pan full of live coals applied to her back would feel.

They come most frequently upon the Back, generally in old people, sometimes several of them at a time: when this is the case the patient is in great danger, especially if they come upon the head.

A kind of suppuration takes place in the cellular substance, but the pus is never good.

Much depends upon the constitution of the patient in using remedies for this disease. If weak the Peruvian Bark should be given.

A blister over the carbuncle is an effectual remedy in relieving the pain but it does not prevent the cellular substance which is dead, from sloughing out.

I never saw a carbuncle in its first stage, but I believe indeed I have no doubt, that a blister applied to it while in the state of a pimple would cure it in a very short time.

Of

Of Wounds.

A wound is a breach made in the continuity of a part, having an external opening: and it always implies mechanical injury.

Wounds are divided into two kinds viz: Incised and Contused.

Of Incised Wounds.

An incised wound is that which is made by a clean, sharp instrument: and is simple in its nature. Much more blood flows from an incised wound than from a contused. I saw a boy once who had his arm ground off in a Grist Mill between the Elbow and the Shoulder: in this case the effusion of blood was so small as not to stain the external dressings that were applied.

A contused wound is that which is made by a blunt instrument: under which head may be ranked, lacerated, gunshot, and punctured wounds.

A wound made with a sharp instrument will pour out much more blood than those made by an obtuse one. Because an incised wound is accompanied with injury no farther than its divided surface. But in contused wounds the injured

injured surface is extended to some distance around the divided parts: and by the effusion of blood in the cellular substance, lateral pressure is produced, which prevents the blood from flowing: besides this from the surfaces being contused, coagulation takes place much sooner.

In contused wounds therefore the blood does not flow.

1. Because the power of the vessels are diminished.
2. By the lateral pressure which is produced by the effusion of blood in the cellular substance.
3. By the death of the vessels, coagulation takes place much sooner. –

When called to an incised wound the first thing to be done by the Surgeon is to put a stop to the hemorrhage. A temporary stop may be put to it by pressing upon it with the finger: and if the divided vessel be small a compress and bandage will perhaps be sufficient but if a large artery be divided the tourniquet should be applied either above the Elbow on the Arm, or above the Knee on the Thigh: the wound is next to be cleared of blood, by means of a sponge dipped in warm water: and then the artery should be tied above and below, by means of the tenaculum, if practicable: In some cases

however

+ A piece of dry sponge, agaric flax &c may be used.

however the divided vessel cannot be seen in that case the needle and thread must be used. In some cases the artery cannot be got at without dilating the wound: when this is the case it should be dilated without any hesitation, and the artery taken up. If an artery upon the trunk be divided pressure should be made with the finger untill the artery can be taken up with the tenaculum. The artery may be pressed as it passes out over the first rib: and the inguinal artery as it passes out of the groin.

It rarely happens that bleeding vessels cannot be stopped by some of the above ways, but sometimes they cannot. When an artery far back in the fauces is divided, a ligature cannot be applied, neither can pressure be used: in this case in order to prevent the hemorrhage, styptics, astringents, &c. should be used: and if these should fail, the actual cautery must be used.

I have known cases in which hemorrhage from large arteries has stopped spontaneously. A Boy aged fourteen years being at School one day, ran a penknife into his leg immediately under the knee joint and punctured the popliteal artery, a large tumour formed immediately, he was taken home and immediately put to bed, & the hemorrhage subsided, the tumour went away; the next morning he got up as well as usual, after walking about

a

a while, the hemorrhage returned, he was put to bed again, and it stopped, the next morning he got up again, after stirring about for some time the hemorrhage again returned, & continued doing so for several days, when I was sent for, in company with Dr. Wistar we ordered him to be put to bed, and kept there, and to have his foot elevated above the rest of the body: he was also bled, kept upon low diet, and opiates were given: in about a week or ten days he got well. Probes should never be used in such cases; in general a superficial dressing, and sometimes moderate pressure is all that is necessary.

The next object after stopping the hemorrhage, is the keeping the divided surfaces in contact with each other: this is in general done either by sutures, compress and bandage or adhesive plaister. In general the adhesive plaister is sufficient, which should be applied in the form of strips about two inches apart, in order to let any extraneous matter which may be lodged in the wound pass out: the compress and bandage should then be applied, and union will take place in forty eight hours, or at farthest in seventy four hours. The adhesive plaister is preferred to the suture for three reasons, 1. Because the patient suffers a great deal of pain in passing the needle through the parts.

2. Becaun

+ when Sutures are unavoidable they should be removed about the 4th day

P

+ a solution of continuity +

2. Because the needle makes a punctured wound.

3. Because the ligatures keep up a constant irritation, and when it passes through any part of the wound it causes suppuration. and leaves a scar in the part.

Incised wounds made with glass should not be approximated but should be treated as contused wounds by promoting suppuration.

When the lobes of the ear, parts of the nose, lips &c. sutures are necessarily to be used.* In wounds of the Abdomen scrotum, and scalp, the suture should also be used. Different kinds have been used but the only kind now in use are the interrupted and twisted.

Inflammation is now the only circumstance to be attended to: if the pulse be full, and attended with fever bloodletting, purges and a low diet should be used.

Of Contused Wounds.

A contused wound is that which is made by an obtuse instrument. which besides* making an external opening, the surface for a considerable distance round is very much injured. The hemorrhage in these cases is generally very small. If the patient suffers much from pain, anodynes joined with an Emetic, or Dover's Powder, should be given

him

† and then the adhesive plaister may be used.

him and a poultice of linseed or bread and milk applied to the part, which should be continued untill the dead parts slough off, and granulations begin to rise. + If the inflammation runs very high the antiphlogistic regimen must be used. But if it puts on a gangrenous appearance, the peruvian bark, bitters, porter &c. and nourishing aliment should be given in order to support the patient's strength. In some cases a blister applied over the part has been found very useful. These remedies may in general be used with much more safety in winter than in summer.

Of Punctured Wounds.

Those are wounds made by a pointed instrument, in which the external opening is small, but of considerable depth.

Inflammation is much greater in those wounds than in incised. They should never be examined with probes.

If it is necessary to make an incision in order to let out any extraneous bodies that may be lodged within, it should be done immediately after the accident or not till after suppuration. The remedies necessary to be used are emollient ~~plasters~~ poultices, low diet, & in some cases a blister over the part.

If an abscess should form at some distance from the puncture, it should be dilated in the direction of the puncture, by means of a scalpell and director, in order to give the matter a free discharge.

Some

Some wounds especially those on the Scalp should be dilated early. In warm weather wounds should be prevented from healing too rapidly: this may be done by dressing them either with stimulating ointments, by dilating with the knife or by caustic and allowing the patient a generous diet.

If symptoms of Tetanus or Convulsions appear the wound should be freely dilated.

Of Wounds in different situations in the Body.

I. Of Wounds of the Eyelids.

In incised wounds of the Eyelid where there is no loss of substance the divided surfaces may in general be kept in contact by means of adhesive plaister: but if that should fail sutures must be used. In using the suture the stitch should be made only through the skin and cellular substance: for if it were to go through to the Eye Ball: the ligature would irritate and inflame the Eye very much. If the ball of the Eye be very much inflamed the inflammation must be removed by means of the antiphlogistic regimen, & the patient confined to a dark room.

If the ball of the Eye be wounded by glass, pieces of iron, sand &c: or if any extraneous matter be lodged in it, if it

can

+ When any substance passes thro' the cornea into the crystalline lens it generally becomes opaque. & the only method of getting out the sub-stance is to divide the cornea, & ex-tract with a pair of forceps: & then the remedies for inflammation are to be used. a salivation frequently removes the opa-city.

can be seen it should be taken out. then if inflammation succeeds. bloodletting, purging blisters, low diet, cupping & scarifying are to be used. The Eye should be washed with milk and water, or the pith of sassafras diluted in water, the eyelids should be closed especially if the ball of the Eye has been opened, in order to prevent the humours from escaping. and the patient should be kept in a dark room.

In some instances the ball of the Eye is not only injured, but the internal parts are also very much injured, by means of shot, needles &c. when this is the case vision is entirely destroyed. The same remedies are to be used as beforementioned.

A Lady having punctured the cornea of one of her Eyes with a darning needle, sent for me to visit her. I directed her to be bled, have a blister applied, and live upon a very low diet. which she did for some time, without having any effect. She then went through a course of Mercury which cured her effectually. I have found mercury given so as to produce ptyalism a very effectual remedy in many cases.

When the inflammation is very violent, I have found that a circular blister applied immediately over the Eyelid, is a very effectual remedy

of

+ The patient should live upon spoonmeat only. In the course of five or six days the stitches may be removed. —

Not only upon the arteries but also upon the veins.

∇ I am however inclined to believe now that stitches are always improper —

Of Wounds of the Face

In order to prevent deformity in the face from wounds, the edges should be kept in contact as much as possible. If contused wounds happen upon the face, soft poultices should be applied. In keeping the edges of wounds in contact, the common adhesive plaister is generally sufficient: some employ the sutures, but they leave very often large scars.

If the lips are cut, if no part is lost, the adhesive plaister is sufficient.

Sometimes the tongue is cut, especially in children, in this case the interrupted suture must be used: in doing this a piece of wood or cork should be introduced between the teeth in order to prevent the child from biting the Surgeon's fingers. +

In wounds of the Ear the suture also is to be used. In wounds of the Throat the first object to be attended is the hemorrhage: the divided vessels should be sought for, and ligatures applied upon them: * After the hemorrhage is stopped the sides of the wound are to be brought into contact. ~ If the orifice of the trachea be small I have succeeded by using the adhesive plaister. But if it be large the suture must be used, it should be passed through to the cartilages only and the external skin closed by adhesive plaister. the patient's head should also be brought a little forward. ^ — If the

Oesophagus

+ Dr P. always would prefer taking up the artery by a needle in a forceps

3

Oesophagus be wounded it will be necessary to pass a catheter down the oesophagus, and let nourishment be taken down through it.

If coughing occurs it must be allayed by means of Opium and demulcents.

Some surgeons suppose that a wound cannot penetrate so deep as to cut the oesophagus without dividing the carotid artery. But I shall relate a case which proves that it may be wounded without touching the carotid artery. —

Of Wounds of the Thorax.

Wounds which penetrate into the cavity of the Thorax, are generally attended with great danger. If any large blood-vessels are wounded, the blood will flow into the cavity of the chest; and by stagnating there will prove very injurious. When an intercostal artery is wounded, and cannot be taken up with a tenaculum, it has been advised to apply a ligature round the rib and tie a doseil of lint upon the mouth of the orifice; this I have never seen done, neither have I ever had occasion to do it myself, but I have reason to believe it might prove successful. Wounds made by shot or bullets into the cavity of the Thorax, are generally dangerous; as they must suppurate, and slough

out

+ A bread & milk poultice applied over the wound is the best application. it should be confined in a piece of gauze to prevent any of it from getting into the Thorax. —

× If blood be effused in the cavity of the pleura, the external wound if it be not sufficiently large to allow its exit, must be enlarged — If the coagula cannot be got out even now they may be withdrawn by means of an exhausted receiver.

out, all the contused parts, it causes a great deal of Inflammation inside of the Chest, difficulty of breathing &c. When this is the case we must have recourse to copious bloodletting, copious purging, and a very low diet. Lint or any such applications when applied to wounds which penetrate into the cavity of the Thorax, should be secured from falling into the Thorax. +

In almost all authors, the necessity of drawing the air out of the chest before the wound is dressed is mentioned: but I believe it is altogether unnecessary: No bad effects are to be apprehended from the air being left in the cavity of the Thorax. ×

Two Officers playing at cards one day, a dispute arose between them, upon which one of them stabbed the other: the wound penetrated into the cavity of the Thorax. In this case the external wound was so large as to admit air, as I was sent for immediately after the accident, I just applied a piece of adhesive plaister over the wound & left the air remain in it, and by bleeding, purging, &c. he was cured, & no bad effects arose from the confinement of the air contained in the chest.

Of Wounds of the Abdomen.

When these are superficial and do not pass into the cavity of the Abdomen, they do not

×

Provided this can be done without greatly dilating the wound or disturbing the viscera

+ I believe it is best to bring the ends of the intestines out of the wound and let them go.

+ If the stomach be wounded food will pass out at the wound, vomiting will ensue, and the patient will feel a great deal of pain.

not require treatment different from any other wounds. But if they be deep and penetrate into the cavity of the abdomen, the edges of the wound should be kept in contact by the interrupt-ed suture. When the suture is to be used, a needle should be put at each end of the ligature and the needle should be introduced from with-in outwards, at about half an inch distant from the edges of the wound, all the stitches should be made, before tying any of them; after they are all made, they should be tied upon the side of the wound: the patient should then be placed in a recumbent posture, live upon a low diet, and his bowels kept well open. As soon as union has taken place the ligatures should be removed, and the adhesive plaister used in their place, until it gets well. —

But if from any accident some of the viscera are injured, they must be examined and if necessary they must be stitched. As soon as the wounded intestine is discovered, four stitches will be sufficient for it, and the ends of the ligatures should be cut off close to the knot; so that when they fall off into the cavity of the intestine; they will pass out at the anus by stool. + It is in general the best and safest way to make the intes-tine fast to the edge of the wound. +

In almost every instance the injur-ed omentum or intestine will protrude through the wound: but if as it sometimes does happen

~~the~~ it

~~that~~ it should not, we may ascertain it by some of the faces passing out at the wound, and by the voiding of blood by stool. These symptoms are also attended with great debility, rigors, coma &c. and if not soon relieved will end in Death. If the Omentum or Mesentery be wounded and hemorhage comes on, the bleeding vessels must be taken up with a tenaculum and tied, and the ends of the ligature brought out at the wound, so that they can be removed when they fall off.

In some instances where the intestine cannot be seen, or bleeding vessel cannot be found, or where extraneous matter is lodged within, it may in that case be necessary to dilate the wound a little in order, to secure them: the external wound should then be stitched up: and the patient have but little to eat or drink, in order to prevent distention, & if uneasy and restless opium should be given. if attended with inflammation, bloodletting and purges will be necessary.

When the right hypochondrium is wounded we may in general suppose the Liver is wounded. When this is the case the patient will complain of a dull, heavy pain about the part, nausea, and if the right lobe be wounded he will complain of a pain in his right shoulder & vice versa. Small wounds of the Liver sometimes heal favorably, but large wounds in general prove fatal. If attended with considerable hemorhage, peritoneal.

+ The posterior part may be wounded without proving fatal

peritoneal inflammation will take place, if it does the patient should be kept very still and quiet, glysters should be given, and barley water for his drink. If the inflammation of the Peritonaeum should be very violent, blood-letting, rest, low diet, and fomenting poul-tices should be applied to the wound.

Wounds of the Gall Bladder are in almost every instance fatal, owing to the bile escaping into the cavity of the Abdomen.

When the Kidneys are wounded, bloody urine is voided: & in general if the ureters are wounded & the urine escapes into the cavity of the Abdomen, it is fatal.

Wounds in the fundus of the Bladder are generally fatal. —

Of Wounds which penetrate into the Cavities of the Joints.

A wound made into the cavity of a joint, requires immediate attention in order to prevent inflammation and suppuration.

In some wounds of the joints, amputation is sometimes necessary in order to save the patients life. But in simple incised wounds the first thing necessary to be done is to place the limb in such a position as to bring the edges of the wound in contact with each

the

A plant should always be
applied in order to keep the first
perfectly like

other, and to keep it so by means of a splint applied to it: the lips of the wound may in general be kept together by means of the adhesive plaister. But if it should be necessary at any time to use sutures, the interrupted suture is the only one that should be used. In making the stitches, the needle should pass through the Integuments only; and by no means pierce the capular ligament, because it would excite a great deal of inflammation, and prove very injurious.

When granulations arise from the wound the stitches are to be removed, and they are to be kept in contact by the adhesive plaister, untill the wound heals. When the ends of the bones are injured, the same remedies are to be used, (viz) to keep the edges of the wound in contact by the adhesive plaister, and the limb extended on a splint. Where the wound pierces the capsular ligament, a splint should be added along with the other dressings; this is a very important circumstance, & should not be forgotten. Whenever the Elbow Joint is injured, and anchylosis is likely to place, it should be kept in a flexed position. and vice versa with respect to the knee

In extensive lacerated wounds of the Joints, especially if the ends of the bones be much injured; it has become a question among Surgeons whether amputation ought not to be performed. It is always my practice in such cases to state to the patient the danger arising from an attempt to save the limb; and let him do which he thinks best.

It must be remembered that such wounds are much more dangerous in summer than in winter and in those who are intemperate.

If.

The celebrated Mr Good recommends the ends of the Bones to be sawed off but this practice I do not approve of –

If under these circumstances the patient should think proper that an attempt should be made to save the limb, or if the Surgeon should think it proper, it should be done immediately, by endeavouring to promote union by the first intention.

In contused wounds of the cavities of the Joints, the edges should be brought as near together as possible, by the position of the limb & kept so by a compress and bandage: a soft poultice should be applied over the contused part: and bloodletting, purging, blisters, and a low diet should be used. Sutures are very injurious. Small contused wounds may in general be cured, by forming anchylosis.

In order that anchylosis or bony union may take place the cartilages tipping the ends of the bones must be removed; ~~this~~ may be done either by leaving it to the process of absorption, which in some instances is very effectual, or by scraping them with a scalpel, in order that the ends of the bones may come in contact with each other and bony union take place: when this is the case the joint will always remain stiff.

In compound luxations of the joint amputation should be performed.

Of Wounds of the Nerves and Tendons.

When a nerve is completely divided a very severe pain, and numbness of the limb

is

is felt immediately, and continues for a long time: but when partially divided the symptoms are the same but of much shorter duration. This most frequently happens in bloodletting. I knew a person who lost the use of his thumb for a considerable time, by the puncture of a nerve in bloodletting: the numbness and pain generally ceases in a few days. If the inflammation be very violent round the wound it occasions great pain, spasms, and sometimes tetanus. The ancient method of treating such wounds was to lay the part open down to the bone, and to use the antiphlogistic regimen: the consequences arising from this mode of treatment, was that the patient's arm remained stiff forever; and in some instances it even occasioned death.

I never have seen or heard of a case, in which I thought it was necessary to divide the wounded nerve: neither do I believe that it is ever necessary. The best, most simple, and most effectual remedy is a blister applied immediately over the part. This I have used in many cases and in all with complete success. The test of the argu- must at the same time be bres-ved

The same effects are sometimes observed to arise from wounds of the Tendons. Sometimes the parts beneath the tendonous aponeuroses swells very much, & the pain is very violent but this seldom happens from bloodletting. I have seen it happen from wounds of the

Thigh

Thigh; also from wounds of the Scalp. I have generally found in these cases blisters if applied early a very effectual remedy: If it should not prove successful, an incision must be made through the fascia, and suppuration will commence at the bottom of the wound. Rest is here also necessary.

Tendons are sometimes completely divided. When this happens they do not in common require different treatment from other incised wounds.

It was the practice among the Ancients in order to keep the edges of the divided tendon in contact, to pass sutures through them. This was a very ineffectual method, and besides it caused a great deal of unnecessary inflammation. In general the limb should be placed in that position in which the divided edges are brought into contact, and it should be kept so by means of splints; & the edges of the wound by a piece of adhesive plaister, may be kept in contact untill they become completely united.

A rupture of the fibres of the Gastrocnemius Muscle sometimes happens: the sensation made at this time appears to the person like a violent blow upon the leg, and a snap is heard, like the breaking of a strong cord. At first it is attended with but little pain, but in three or four days, if care has not been

taken

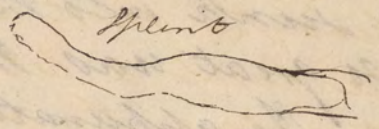
taken of it, inflammation supervenes, and it becomes very painful. It is sometimes attended with ecchymosis and I have also been able to feel a depression, exactly in the spot where the patient felt the snap.

Whenever a case of this kind happens it should be treated in the same manner with ruptures of the tendo Achilles.

If the tendo Achilles be ruptured or divided suddenly, the patient feels a snap like the breaking of a tense chord and is unable to extend the leg, or walk without a great deal of difficulty.

The celebrated Doctor Monro, who had the misfortune to rupture his tendo achilles, observed that at the time it appeared to him as if something had given way with a sudden snap, and as if his heel had sunk into the floor three or four inches, so great was the shock it gave him. The apparatus made use of by the Doctor in his case, and which has been made use of by many others since was the following. A strong piece of coarse linen, was laced round the upper part of the leg, with a buckle fastened to it behind. the foot was then extended upon the leg, as much as possible, and a slipper

put


Splint

put upon the foot, with a strap at the hind part long enough to pass through the buckle at the upper part of the leg which was drawn very tight in order to extend the foot as much as possible so that the edges of the tendon might be brought in contact with each other. With a great deal of care the Doctor succeeded in curing this rupture very successfully.

But I have used the Doctor's remedy and have generally found it very ineffectual. In the first place it does not keep the limb entirely steady: it allows it to have lateral motion: and when this is the case the edges of the tendon becomes displaced. In the next place, in order to keep the foot perfectly extended it is necessary to draw the strap so tight as to cause the laced bandage to press so much as to obstruct the passage of the blood & lymph, and cause the limb to become oedematous.

The method which I have used of late, & which I find the most effectual is first to bend the limb a little upon the knee in order to relax the muscles: then a carved splint a box, made in the shape of the leg, and exactly fitted to it, and the foot when extended, and reaching more than half round the leg, should be applied; which should be retained there by means of a bandage applied round the heel & over the splint, & so round the foot untill it reaches

the

the toes. Another bandage should then be applied on the upper part of the leg, in order to secure the splint at its upper part, leaving room between the bandages for dressing the wound without disturbing the splint. If the edges of the skin double down it should be prevented by applying a piece of adhesive plaister over it; if this should fail two or three small sutures should be passed through the skin only; a simple plaister over this, and a bandage slightly applied over the whole. The splint should not be removed untile the wound is entirely healed.

Of Wounds of the Veins.

These very seldom occasion any great trouble, the hemorhage is generally very easily stopped by compress and bandage.

Wounds of the vein generally come under our notice from bloodletting. In blood-letting they are sometimes apt to become in-flamed. This inflammation arises from the orifice not uniting by the first inten-tion and this is owing to its not being sufficiently closed at first. In closing the orifice, the thumb of the hand which holds the arm should press down the edges, while with

The cavities of the veins from not being properly tied up, by being exposed, I believe is very often the cause of Inflammation.

with the compress of linen in the other hand you press it up in opposition to the thumb which presses the edges of the orifice close together the compress which ought to be broad & thick should then be applied, and over it a bandage, this prevents hemorrhage and disposes the orifice to unite by the first intention, which it will in general do if care be taken to treat it in the above mentioned way. —

When this happens the inside of the vein or the internal coat is the seat of the inflammation and which causes the soreness of the arm. Sometimes adhesions take place on the inside of the veins a little above and below the orifice, and an abscess is formed; sometimes adhesions take place in different parts of the vein, & abscesses will form along the whole course of a vein. Sometimes ulcerations take place. It also frequently happens that the veins become inflamed for some distance, and often resembles erysipelatous inflammation. If abscesses form & suppuration takes place, when it heals, the vein becomes so much wasted that the person can never be bled in that vein again.

Mr Hunter's method of treating such wounds was to apply a compress upon the part, and if suppuration took place, a compress and bandage above the inflamed part in order to cause adhesion to take place in the sides of the vein. This method is com-

monly

commonly successful, but sometimes it is unsuccessful. I have by experience found that the most certain remedy is to put a piece of adhesive plaister over the orifice, & apply a blister over the whole inflamed part. I have employed it a great many cases & have never failed excepting in one case, in this the inflammation had extended beyond the Shoulder.

Of Gun Shot Wounds.

When fire arms were first made use of in War, the ancient Surgeons supposed the wounds which they inflicted were poisonous: from their edges being turned to a black colour; some also supposed that they contained fire in them. But this is not the case. The ancient method of treating such wounds was calculated to produce those appearances, they generally made use of acid and very irritating medicines, which have a very great tendency to increase the inflammation & cause them to put on a gangrenous appearance.

A.

A Gunshot wound is formed by a spherical obtuse body (and according to the velocity with which it enters, so is the contusion): has a small orifice, and it generally happens in healthy persons. They partake of the nature of contused or lacerated wounds: the wound seldom bleeds much at first: but after ten or twelve days, when the parts slough off and the external orifice is much increased, hemorrhage sometimes takes place, if care be not taken to prevent it; the death and contusion of the part is greatest at its entrance.

They in general require the same treatment as contused wounds. When the ball passes through a part it sometimes heals by the first intention: and the orifice where the ball went out at, will heal up the first. Some Surgeons suppose that when the cranium is laid bare: that part of it which has been injured by the ball, should be removed by the Trephine: but this is by no means necessary.

In common cases these kind of wounds should not be dilated. But where the ball has entered into the trachea and prepes so as to impede respiration it is then very necessary to dilate the wound and extract the Ball. It is also proper when bloodvessels are divided, and cannot

be

be come at, so as to stop the hemorrhage; also when the skull is fractured, it is proper to dilate the wound.

If extraneous matter be introduced with the Ball, it should be extracted, if it can be easily come at. If the wound be very deep it is not necessary to dilate it in order to extract the bullet only. Neither probes nor forceps should ever be introduced into the wound: if any thing should be necessary the finger must be used. There have been instances of bullets remaining in the bottom of the wound for many years without doing any injury.

Gun shot wounds very seldom run in a straight direction: the bullet generally goes round a bone, unless the force be very great indeed, it will then pass through it.

The best thing to be applied to such wounds is a soft bread and milk or linseed poultice: all stimulating remedies should be carefully avoided.

The constitutional treatment is different under different circumstances. In general the patient after the accident is very faint, and dejected: in that case sudorific anodynes should be given; (Dover's powder answers very well.) If inflammation and fever supervene, bloodletting purging and low diet should be used.

It has been recommended by some

Surgeons

+ provided it does not produce fever.

+ Dr. Rush once saved the life of an Officer who was wounded in the Thorax, by taking an hundred and eighty six ounces of blood from him in a short space of time

Surgeons to bleed in all gunshot wounds without any discrimination in order to prevent inflammation. This I think is not proper it should be delayed in general untill ~~suppura~~ inflamma-
-tion commences.

I have sometimes seen tetanus brought on by copious depletion: and in one case the patient died. Some are of opinion that Amputation should be performed as soon as symptoms of tetanus appear in order to pre-
-vent it: but this is also injurious, it never stops it. When suppuration takes place the bark either in powder or decoction, and an invigorating diet should be freely ad-
-ministered.

When the bones are much injured such pieces as are detached should be removed if it can be done without applying much force: and it should then be treated as a compound fracture.

Gun Shot Wounds of the Head. They do not re-
-quire any different treatment from those made in other parts of the body.

Gun Shot Wounds of the Thorax. Wounds penetra-
-ting into the cavity of the Thorax are attended with great danger. In general they become very much inflamed: when this is the case the patient should be bled very copiously, live upon a very low diet, a blister should be applied on the outside of

the

* Remember always to draw off the urine & pay great attention to the urinary bladder, it is the first that demands our attention.

If a piece of intestine passes out, it should be returned if not injured: but if injured it must be treated in the manner which I shall speak of when I come to treat of hernia.

the breast, and a soft bread and milk poultice applied over the wound, covered with gauze, in order to prevent any of it from falling into the cavity of the Thorax.

Wounds of the Spine. They are generally attended with palsy of all the parts below the wound: if it penetrates into the spinal marrow. If the wound be in the neck above where the phrenic nerve passes out, it is immediately fatal. because respiration is impeded.

Wounds of the Abdomen. They are dangerous according to the mischief done to the internal parts. If the wound penetrates through the Liver, it is attended with great depression, languid circulation, a dull and heavy pain, and sometimes an insatiable thirst. If the Gall Bladder be wounded death is inevitable, owing to the escape of the bile into the cavity of the Abdomen. If the Stomach be wounded it is attended with great depression, and nausea, & the matter thrown up is generally tinged with blood. If the intestines are wounded, it is attended with bloody stools. If the Kidneys bloody urine is voided. If the Bladder be wounded so that the urine escapes into the cellular substance it is fatal. —

In all these cases little can be done but to keep the patient at rest and the wound easy untill adhesions take place, a mild diet, and a soft poultice applied to the part.

When a bullet enters into the cavity of the joint it is attended with considerable injury. When it passes with much velocity it causes the death of the external part.

When it passes into a large joint, amputation is generally necessary in order to save the life of the patient. When it partakes of the nature of a lacerated wound, it may be treated in the same manner, by endeavouring to heal it by the first intention. A bullet has passed under the patella and the patient got well. —

If Amputation be necessary I generally prefer doing it immediately after the accident, & before inflammation takes place for two reasons.

1. Because the constitution is not so likely to sink under it. &

2. Because the patient will bear it with much more fortitude. —

I propose now to recapitulate my Lectures "On Wounds", in order to shew you the manner in which they are to be treated and the method of tying the divided bloodvessels. When speaking of wounds I divided them into two kinds, viz. incised and contused. In incised wounds if bloodvessels be injured there is a considerable hemorrhage. In contused wounds I mentioned there was seldom any hemorrhage and related some cases which proved this fact.

In the treatment of wounds the first thing to be attended to is the hemorrhage. When an artery is divided the blood flows, per saltem, and is of a florid red colour. As soon as an artery is completely divided it contracts itself. In consequence of this contraction of the artery into the cellular substance, the extravasated blood passes into the cellular substance forms a coagulum, and frequently puts a stop to the hemorrhage. In this way it is that nature puts a temporary stop to hemorrhages. But in order to make a permanent stop, inflammation should take place all round the artery; coagulated lymph is thrown out, adhesion takes

place

place, and the orifice becomes entirely oblite-
-rated. The ancient method of stopping
hemorrhages were by means of styptics, the ac-
-tual cautery, or by the artificial tourniquet.
this was made by passing a strong leather
string round the limb, twice, and tying the
knot immediately over the artery, on which
a compress is put, then passing a strong
piece of wood under the knot, and twist-
-ing it untill the hemorrhage ceased.

Of all the means made use of com-
-pression is generally found to be the best.
Lint, compress and bandage we know will
in general stop the hemorrhage from small
vessels. Vessels are sometimes divided
in such a manner as to require compression
immediatelly to prevent the hemorrhage.
The best and most effectual method is by
tying it up. When called to a wound
that bleeds very freely, a temporary stop
should be put to the hemorrhage, by placing
the finger upon the orifice of the divided
artery, untill, (if the wound be upon one
of the Extremities) a tourniquet can be
applied. Before applying the tourniquet
a compress should be put upon the artery
and a bandage passed once round the limb,
the strap of the tourniquet should then be

applied

applied round the limb over the bandage, & the screw of the tourniquet upon the compress. it should then be screwed down untill the hemorrhage ceases. As soon as this is done and the hemorrhage stopped, the wound should be well cleansed by means of a piece of sponge and warm water. then the divided artery should be sought for; having found it a tenaculum should be passed through the end of it, and draw it out so as to pass a ligature round it, & tie it firmly.

It sometimes happens that an artery is divided high up in the body and the tourniquet cannot be applied. When this is the case pressure upon the subclavian artery as it passes out over the first rib, or upon the inguinal artery as it passes out at the groin, frequently puts a stop to it. If the wound should be in that part of the body in which neither of the above methods will answer, then the wound should be dilated, and the artery taken up with a tenaculum: if this cannot be done, the finger should be passed down upon the artery and a curved needle armed with a ligature, passed down along side of the finger and round the artery, taking care to keep the flat side of the needle

next

neat the artery, or you will be in danger of cut-
-ting the artery with the sharp edge of the needle,
after having passed it round the artery, and some
of the surrounding parts, the ligature should
be tied tight, the needle is then to be cut
off, and the ends of the ligature brought
out of the wound.

There are sometimes cases in which
arteries are divided which cannot be seen.
This once happened to myself; the first
time that I operated for the Stone I had
the misfortune to divide the internal pudic
artery: in this case I succeeded in stopping
the hemorrhage by passing my finger down
the wound, untill I felt the pulsation of the
artery, I then passed a tenaculum down
along side of my finger and under the
artery, I then passed the point of the tenacu-
-lum out upon the other side of the artery,
and applied a ligature upon it without much
difficulty: in this way hemorrhages may
sometimes be prevented.

When an artery far back in the fauces
is divided, the hemorrhage may in general
be stopped by applying a doseil of lint to the
orifice: if that does not succeed the actual
cautery must be used. When an artery
in the foot is divided, and it cannot be

seen

seen or come at, the hemorrhage may be stopped by applying compresses at each ankle upon the arteries: then a brass, copper or tin hoop or ring, with its ends not united should be put round the leg over the compresses, and a tourniquet upon the top of the hoop or ring, then by screwing the tourniquet the arteries will be pressed upon by the compresses, & the hemorrhage stopped: whilst the rest of the vessels of the leg & foot will not be obstructed.

Where there is only an oozing of blood from small vessels, they may be stopped by dry lint and compress, or by applying lint or linen dipt in Spirits of Turpentine to the vessels. this latter method is an excellent remedy.

After having put a stop to the hemorrhage the next thing to be done is to bring the edges of the wound into contact. This may be done either by sutures, compress & bandage or by adhesive plaister. I prefer the adhesive plaister, for it generally answers the purpose very well: a piece of linen spread with mild ointment should be applied over it, and fastened by means of a roller applied round the whole.

In making use of the adhesive plaister

it

when we are obliged, however to have recourse to Sutures, they should be with=drawn as soon as they have effected the purpose for which they were employed which will be about the 4th day.

× The edges of the torn parts should not be placed in ex=act apposition, as by so doing the part will be put upon a stretch, and when inflamation occurs the parts will be killed from the circulation being obstructed.

it should be used in the form of strips about two or three inches in width, and they should be put about half or three quarters of an inch distant from each other, in order to let any extraneous matter pass out of the wound; and to let the pus escape.

Sutures are scarcely ever necessary; when they are the interrupted suture only should be used. The use of the suture occasions a great deal of pain: and suppuration generally takes place along the whole course of the suture.

When no extraneous matter is lodged within the wound, and its edges are brought into contact by means of the adhesive plaister; it frequently unites in thirty six hours; and at the farthest in about two or three days.

When the parts are torn and stript off as it were, the best method of treating it is after replacing it to apply a bandage & compress of tow. For example, if the calf of the leg be torn and stript down over the foot; after having washed and cleansed the parts by means of a sponge & warm water, they should be turned up and placed in their natural position: then a bandage should be applied from the ancle up to the knee, with a compress of tow; by which means the parts are kept completely in contact with each other. Sutures are seldom necessary in this case, if they should be the

parts

parts should not be brought close together.

If a Surgeon be called to see a wound and if before he gets there the hemorrhage be stopped: I would advise him not to disturb it: but if there be danger of its bleeding again (if the wound be upon one of the extremities) to apply the tourniquet loosely; and desire it to be tightened if the hemorrhage should return.

Having in the preceding lectures treated of Inflammation, Mortification and Wounds, I shall in the next place speak of ulcers.

Of Ulcers.

1. Of Ulcers situated in a healthy part of a sound constitution. The causes of such ulcers are not necessary to be known; they are however sometimes preceded by wounds.

In the simple ulcer, pus is first thrown out, and then granulations arise. Granulations are small red globules, formed by the coagulable lymph which is extravasated upon the surface of the sore, and becomes vascular. They generally appear upon the top of

& Dominishes the Dizze of the Mar

of the Ulcer, and in some ulcers are very sensible and bleed at the slightest touch. Granulations have a very great tendency to unite, so that when brought into contact they will sometimes adhere in twenty four hours. X A free suppuration of the ulcer diminishes the inflammation and the redness is also removed. The healthy pus is of the consistence of cream, and of a light straw colour, and readily separated from the granulations.

Granulations expedite the healing of an ulcer: they also have a power of contracting themselves so as to diminish the size of the ulcer very much. I have seen it contract so much after extirpating a scirhus breast, as to resemble the puckering of a drawing string. The advantages of this contraction are considerable X 1. It expedites the healing of the Ulcer, and 2.° Nature has much less surface to supply with new Skin.

After granulations then the formation of new skin to cover these granulations commences on the top of them: it generally begins first round the edges, and is of a pale bluish colour: in large ulcers it frequently begins in two or three different places, at the same time upon the surface of the sore. The treatment of such an ulcer should be simple dry lint which will absorb the pus, and a

plaister

plaister of bees wax and oil over the lint and a bandage applied of a moderate tight-ness over the whole. In general nothing is more necessary than to persist in this plan untill the cure is accomplished.

Mr Bynton recommends the adhesive plaister as very useful in expediting the heal-ing of some ulcers. By approximating the edges of the ulcer as near together as possible the granulations are expedited, and it cicatrizes much sooner. I have found the adhesive plais-ter an excellent & effectual remedy. Before applying the adhesive plaister if the ulcer be upon the leg the hair should be shaved off, & the adhesive plaister in the form of strips should be applied at a little distance apart (Mr Bynton says the whole surface of the ulcer should be covered by the plaister) but I do not think this proper because the matter is confined within the ulcer and causes the ulcer to increase, but when it is allowed to escape, the healing of it is very much expedited. After having applied the strips of adhesive plaister, a roller is next to be applied from the ancle & foot to the knee, taking care to make equal pressure with it up the whole leg.

When the granulations are very weak and cicatrization is much impeded I have seen cold water poured in a stream upon the

ulcer

× Sprinkle over the Ulcer Iodo: Rhoei & various other applications

When patients have been walking or in an erect posture, the Ulcer will appear purple or blue, by this, we ascertain whether the pain has been still or not

ulcer four or five times in a day cure it effectu-
-ally by its strengthening the granulations, and
expediting it to cicatrize. — Sometimes ulcers
will remain a long time in statu quo, that is
without any disposition to cicatrize, when this is
the case if the ulcer be small, I have found
that by exposing its surface to the air and
letting it scab, very often cures it. But if
it be large, washing it in Spirits or Brandy
diluted, and if that does not answer a solu-
-tion of lunar caustic frequently effects a cure.

Walking and an erect posture impede the
healing of ulcers upon the extremities.

When an ulcer is situated upon the leg
the blood vessels from the newly formed granu-
-lations are not of sufficient force to counteract
the weight of the blood, of course they burst, when
much exercise is used: hence the reason why we
see blood discharged with the pus, from exercise
and an erect posture. Sometimes the granu-
-lations are so weak as not to be able to carry
on the circulation, the blood therefore stagnates
there, and keeps the ulcer of a dark colour,
& impedes the healing of it. —

The treatment necessary for ulcers
seated upon the legs are, a recumbent pos-
-ture, or if the patient's business is such that
he cannot endure that, bandages should be
used. There are three kinds of bandages (viz)
the laced stocking, the Muslin or Linen roller
and the slips of linen with adhesive Plaister.

J.

I prefer the muslin roller to the laced stocking, because the stocking cannot be so easily had, and it is difficult to get one to fit the leg exactly. The muslin roller should be applied of an equal tightness over the whole leg. 2. An edematous swelling of the limb impedes the healing of an ulcer very much. This edema is removed by a recumbent posture, but if the patient will not submit to it, the bandage should be applied in the morning before he gets up, while the edema is removed by the recumbent posture during the night.

Under the head of improper dressings I might mention, the practice of dressing to the bottom (as it is called) viz: by applying lint in all the cavities of an ulcer, also the use of washes, salves, powders &c. are very injurious. The simple treatment beforementioned is all that is necessary. Intoxication is very injurious to ulcers, also very hot or cold weather impede their healing very much. I have known very obstinate ulcers to be cured, by the patient being seized with a violent fever, which continued for several days.

I go on next to speak of particular ulcers: they are divided into six kinds, viz:

the

7.x Ulcers from Varicose Veins

8. Ulcers arising from some peculiarities of the constitution such as Scrophula & venereal

x and an elevated position of the limb.

the inflamed, fungous, oedematous, sloughing, indolent, and carious Ulcers. X

I. Of the Inflamed Ulcer. This is known by its becoming very painful, and the parts around it inflamed, and of a red colour. It requires nearly the same treatment as the common local inflammation: viz. rest, vegetable diet and abstaining from spirituous liquors. X If the inflammatory symptoms affect the constitution, bloodletting, blisters and purges are to be used. The best application to the ulcer is a bread and milk or linseed poultice applied twice in a day. In some cases when the constitution of the patient will not bear evacuating remedies, I have succeeded by raising the leg much higher than the other part of the body.

II. Of the Fungous Ulcer. In this species of ulcer, the granulations are very large and rise above the top of the skin round the edges: and in some ulcers are very sensible and bleed from the slightest touch: in others are entirely insensible. The treatment of this kind of ulcer should be simple pressure, by means of a compress of dry lint over the fungous part: afterwards the edges of the ulcer should be

x but purple

x The roller should be put on before the patient arises from his bed

be approximated by means of the strips of adhesive plaister, and a bandage over the whole. If this method does not answer, if the ulcer be small apply the lunar caustic over the whole of it, but if large over a part only at a time: by this means the fungous is destroyed, and the ulcer may be treated as a simple healthy ulcer. Many other remedies have been used with success in this ulcer viz red precipitate, burnt alum in powder, the powder of oak galls, and an infusion of oak galls &c.

In ulcers resulting from burns, this fungus is of the worst kind. The best application to it is the basilicon, and the burnt alum in powder.

III. Of the Œdematous Ulcer. This is generally accompanied by inflammation, is very painful, and the granulations are not of a red colour. The cure of this ulcer is effected by elevating the feet of the bedstead and approximating the edges of the ulcer by the strips of adhesive plaister: a roller should also be applied from the foot up to the knee.

IV. Of the Sloughing Ulcer. This generally arises from the weakness of the granulations. In some old ulcers, when the granulations

+ This is owing to the part not having sufficient life to keep it restored. –

☒ among the most important remedies in this case with the vapor of volatile alkali by immersing the ~~wear~~ neck in the vapor some of the older surgeons have a quantity of wool and immersed the limb in the vapour the fumes thereof

-tions have arisen to the top of the sore, and cicatrization has taken place, it suddenly becomes very blue or of a blackish colour, which very soon sloughs off, and increases the size of the ulcer.

The sloughing is generally attended with fever and pain. Where there are ulcers on both legs one will frequently heal, while the other is sloughing. In the treatment of this ulcer the Bark should be given, and if attended with much pain, Opium is to be used: a soft bread & milk poultice with laudanum in it should be applied to the ulcer; a poultice made of carrots, and the fermenting poultice (to which charcoal should be added if there is a tendency to mortification) - have been used with success.

In several cases I have applied blisters over the ulcer with compete success. In warm weather maggots frequently get into this kind of ulcer: a solution of nitric or muriatic acid prevents them by washing the parts occasionally with it. After the sloughs have separated it may be treated as a common healthy ulcer.

In persons of a weak constitution we sometimes meet with ulcers, which appear to be doing very well, and frequently without any obvious cause the new skin will be absorbed, and the ulcer becomes enlarged.+ When this is the case I have found cold water applied to the ulcer has a very good effect, in strengthening the

granulations

> with addition of a little lard

granulations; after that applying lint wet in a weak solution of lunar caustic, or a very weak infusion of oak galls in water with laudanum. The Unguentum Citrinum has also been used with success. -

V. Of the Indolent Ulcer. When the operations of nature have been frequently disturbed, in the healing of an ulcer it becomes indolent; that is it has no disposition to cicatrize, the edges become hard and callous and rise above the ulcer. In order to effect a cure the edges are first to be removed either by the knife, by caustic alkali, or by making pressure with compress and bandage. The caustic I think is preferable to any of the other methods. In using it care should be taken not to touch the granulations with the caustic. By perseverance in this method I have very frequenly cured very large indolent ulcers. When all the above remedies have failed I have found a salivation an effectual remedy. —

VI. Of the Carious Ulcer. This species of ulcer arises from the dead portion of bone stimulating the parts around it; which being irritated throws out a thin icherous discharge

which

discharge which prevents the ulcer from healing. When the bone becomes loose it should be extracted, by which the ulcer is reduced to a simple ulcer. There is seldom very little motion in the bone after it has become loose, owing to the granulations pressing all around it. It is a matter of great importance to ascertain whether the bone is separated from the sound part or not.

In order to do this the probe should be passed down upon the bone, by pressing upon it if the bone is sound, the patient will feel no pain, but if it is loose, the patient will cry out with pain, and hemorhage will follow the removing of the probe. In order to extract the dead portion of bone, the ulcer should be dilated by the knife, or by means of a sponge tent.

Of Ulcers arising from varicose veins.

They resemble ulcers of the indolent kind. They are generally attended with considerable pain. The method generally used in the treatment of such ulcers, in ancient times, were, the laced stocking or bandage applied from the foot to the knee: this answered the purpose very well, while it is applied: but as soon as it is left off the ulcer will return to its old state. The best method, and that which is now used

is

one

is that of tying up the vena saphena where it runs along the knee joint. and I have found it an effectual remedy.

Mr. Holme's method of performing the operation is as follows. The patient is placed upon a table of a convenient height with a chair upon it, the back of which he is to lean against, and support himself the knee will then be of a proper height for the surgeon to operate; the inner ancle of the affected limb should be placed next the light: the loose skin at the knee with the vein is then to be taken up transversely with the thumb and fingers; then with a sharp pointed knife make an incision through the skin and underneath the vein (with the back of the knife to the vein) and pass it out on the other side: then a ligature is to be applied round the vein: I think it is best to put a dossil of lint upon the vein, and tye the ligature on it, so that if you are under the necessity of cutting the ligature, you can do it without injuring the vein. In five or six days the ligature will come off: if it should not it may be cut off. — After performing the operation the edges of the wound should be approximated, and kept so by means of the adhesive plaister.

My method of performing this operation is the same with that of Mr. Holme's

excepting

excepting instead of placing the patient in a standing position, I prefer having him in an horizontal position. The standing position of the patient is very bad; and there are but few persons who during the operation do not grow weary and faint; which is not the case when in an horizontal position. I therefore generally make use of a tourniquet applied round the thigh moderately, ~~tight~~ so as to press the veins in order to distend them, and then lay the patient down upon his back, and perform the operation as beforementioned.

Cases sometimes occur in which the veins that run parallel to the vena saphena is distended in that case it should be tyed up also: and as it frequently runs very near to the other, they may both be tyed up at the same time. The vena saphena minor is sometimes very much enlarged, when this is the case it must also be tyed up: and if it does not succeed in curing the ulcer, I have succeeded by tying up the vein in different places upon the leg. No inconvenience will arise from tying up both the vena Saphena, the ligature only acts as a permanent valve, the blood flows by anastomosing branches to the deeper seated veins, and is carried by them to the heart.

Ulcers arising from a diseased action, are either local or constitutional, such

† In this disease Dr Olynpich has remedied her with the terra Japonica

such as the lues venerea, cancer, scrophulous &c.
The diseased parts are sometimes situated in a part where they may be extracted either by the knife or by caustic. I generally prefer the caustic; after the eschar separates it should be treated as a simple ulcer. X

Ulcers from the venereal virus are cured by the use of Mercury. —

Of Fractures.

A Fracture may be defined the complete solution of continuity of a bone suddenly occasioned by external violence.

They are generally broken by external violence, but in some instances muscular action is so powerful as to produce it. I have seen the patella fractured in this way, and once a fracture of the humerus. Drunken persons seldom break their bones by falls, owing to muscular action not being fixed on any one point. Bones are supposed to break easier in frosty weather; this is not owing to their becoming more brittle in frosty weather, but to the action of the muscles, be- more powerful, and fixed.

When

+ and the wound communicates with the cavity of the fracture —

When one of the bones of the extremity is fractured the patient experiences a great deal of pain at the place of fracture, & when it is moved the pain is increased by the rough edges of the bone irritating the surrounding muscles: it frequently becomes much shorter than the sound limb, by the fractured ends of the bone overlapping each other: and when the limb is taken hold of, it will bend at the place of the fracture

Fractures are divided into simple and compound. A simple fracture is that in which the bone only is broken without any wound of the external parts.

A Compound fracture is that in which not only the bone is broken, but the external parts are also wounded around the place of fracture. The compound simple fracture is that in which there is small external wound along with the fracture, which may be healed by the first intention, and the fracture which was compound at first will then be reduced to a simple. —

The pain and convulsive twitchings of the limb cease when the fracture is reduced, and the ends of the bone placed in their natural position. In order to prevent inflammation bloodletting and a strict antiphlogistic regimen should be used & the application of a poultice with hot water

Fractures

Fractures are easily reduced the only impediment is the contraction of the muscles which surround it. In proceeding to re-duce the fracture therefore the first thing to be done is to place the limb in that position in which the muscles are most relaxed: when this cannot be done copi-ous bleeding should be resorted to untill sickness and fainting are produced during this the bones may be reduced without any difficulty: in order to keep them in that position splints are to be used: they should be applied externally and should be longer than the fractured bone.

Splints are made either of wood stiff leather whalebone or pasteboard. I prefer the latter because by soaking it in water, and applying it to the limb it will mould itself exactly to the shape of the limb: and when it becomes dry it is firm enough to answer all the purposes necessary.

It sometimes happens that we are not called untill after the limb has been fractured for some time, and it is very much swelled and inflamed: care should be taken not to attempt setting the limb untill after the swelling and inflamma-tion has abated: this may be done by means of bloodletting, poultices of bread and milk with lead water applied to the part

and

× This is not always true for a practice in

× I have known ~~the~~ a man of 80 miles much sooner than in a young person

and a low diet.

Having placed the bones in their natural position, the bandages and splints are then to be applied. After eight or ten days the dressings should be taken off and the part examined, in order to see whether any displacement has taken place, if there has, it can be replaced without any incon-
-venience. New bandages should be applied and if the limb swells they are to be loos-
-ened. Bleeding and low diet are to be used in proportion to the inflammation.

Bleeding is I think by far the best method for evacuating, it is the soonest done & most convenient. Purging is very inconvenient and painful. The time of union varies according to the age and constitution as well as to the nature of the fracture, size of the limb &c. — It unites much sooner in young persons than in old. Fractures of the rib and jaw are much longer in uniting than a fracture of the Fibula. Fractures at the joint are much longer uniting than a fracture in the middle of a bone. Sometimes the ends of the bone will not unite in that case the sawing off of the end of the bones, has been recommended. This is a very painful method, and although it has succeeded in some instances, in promoting union; yet it very often fails. — I have found using the limb freely

to

to promote its union. When it happened in the Thigh I have desired the patient to walk upon crutches, and to use his leg freely every day, by using it in this way, the ends of the bones rub-bing against each other excites inflammation granulations are thrown out, adhesions take place, and the bones become firmly united.

When the Os Humeri is fractured and does not unite at the usual time; it frequently will not by either of the above methods.

The method which I have used of late years and which I have found to be an effectual remedy, is the passing of a seton through the integuments, and between the fractured ends of the bones; and letting it remain there for several months. The first time I performed this operation, (which proved effectual) was in a seaman by the name of Isaac Patterson who was admitted into the Pennsylvania Hospital with a fracture of the Os Humeri near its mid-dle: which he had broken whilst at sea; it had been set but by improper management, the ends of the bones had never united. The arm would bend at the place of fracture in any direc-tion. — Twenty months after the accident I performed the operation in the following manner. In the first place having seated the patient in a chair, I requested the assis-tants to make extension and counter exten-sion, I then passed the seton needle armed with a skein of silk down between the ends of the bones, and through the integuments of the arm the needle was then removed, and the orifices made

* Inflamation is sometime not induced in less than 5 or 6 months - No bad consequences ever occur from this operation

+ I have tried this remedy on two cases of fractures of the Os femoris but I am sorry to say without success

success

by the needle, were dressed with lint, and a plaister spread with some emollient ointment, which were secured there by means of a roller passed round the arm several times. — The silk remained in the arm for eleven weeks before any symptoms of bony union began to take place. On the twelfth week the seton was removed, & the bony union went on very rapidly: it very soon afterwards became firmly united. The operation was performed on the 18th of December 1802, and it was well & he was discharged from the Hospital on the 28th of May 1803. He has told me repeatedly since that his arm is as strong as ever it was. The seton by being left so long in the arm excited inflammation, and suppuration, granulations were thrown out from the ends of the bone, which united & then ossifying formed the bony union. ——

If the person should be very fat, I should think it would be best to dissect down to the bone with a scalpell before passing the seton: there would then be no danger of wounding any of the bloodvessels.

Simple fractures generally heal by the first intention, or by adhesive inflammation. The union of the bones requires a much longer time than the soft parts to heal. The first thing that begins the union is the effusion of blood which coagulates, it then becomes vascular and afterwards forms what is called callous. The callous is first full of vessels but after a short time it becomes as firm as bone. — The inflammation is sometimes

so

+ In Compound fracture the bony union is first formed by the osseous matter which is thrown out from the ends of the bones —

Where the fractured bones are so much injured as to cause them to die they begin to slough: but union then takes place before the bone has sloughed because the flesh surrounding the fracture throw out granulations: and first becomes cartilage afterwards bone.

so violent as to produce Mortification of the soft parts: when this is the case the ends of the bones most commonly die, and they are either exfoliated or absorbed. ‡

Compound Fractures differ according to different circumstances. * In some instances the wound is a simple incised wound, but most commonly it partakes of the nature of a punctured or lacerated wound: and the fracture may be either transverse or oblique in one place, or in two or three places, in one or two bones at the same time. - Sometimes hemorrhage follows a compound fracture. - When much blood flows the tourniquet should be used, and the bleeding vessel should be tied. If the bleeding vessel cannot be seen it should be taken up with the tenaculum.

After stopping the hemorrhage ~~the next~~ thing to be considered (if the limb be very much torn) is whether an attempt shall be ~~made to~~ save or not. If the parts are much lacerated so as to stop the circulation it should be amputated immediately. If the hemorrhage be very profuse, & the patient's life in danger from the surgeon's not being able to get at the bleeding vessel in order to secure it: it has been recommended by some surgeons to amputate immediately. I believe however that there is seldom any necessity for performing the operation. It is in almost every instance in the power of the Surgeon to stop the hemorrhage in some way. If an artery has been wounded & cannot be seen, the large

branches

tibial

+ Or I have myself taken up the popliteal artery about one third of this way up the leg & I think it may be easily done at any ~~time~~ time —

branches which give support to it may be taken up: by the same method as in the popliteal aneurism.

In compound fractures of the leg where the posterior tibial artery is wounded Mr Hey recommends the sawing away of a portion of the Fibula, in order to come at the bleeding vessel: and Mr Goock recommends amputation. Neither of them I think are necessary. a much better method is to dissect down to the popliteal artery in the ham. & take it up.

Whenever amputation is necessary in compound fractures it should be done immediately. - If mortification takes place after a fracture, the limb should not be amputated untill after the mortification has ceased.

From the foregoing observations it is certain that there are seldom cases in which amputation is necessary. -

In compound fractures hemorrhage sometimes follows as soon as it is stopped the bone may be set as in a simple fracture. If a piece of bone hinders the placing of the ends of the bones in their proper situation it should be removed either by the forceps or saw. If there be any extraneous matter within the wound it should also be extracted if practicable.

Having reduced the bones we may in

× If subsultus tendinum takes place
Opium should be administered.

in general proceed to unite the wound by the first intention: this may be done either by ~~means~~ drawing the lips of the wound together by adhesive plaister, or if that cannot be done by putting a pledget of dry lint upon it the blood will wet it, & it becomes firm and forms a scab, and very soon heals. A clot of blood filling up the cavity of a wound should not be removed: it will prevent suppuration & it will dispose the wound to heal by the first intention.

The inflammation is sometimes very violent in compound fractures and demands particular attention. In order to prevent it bleeding should be used, & that should be repeated as often as is necessary: the antiphlogistic regimen should be strictly adhered to, and a soft bread & milk poultice should be applied to the wound twice every day. After the inflammation has subsided bark, wine & cordials are to be given. If mortification should take place it must be treated in the manner I have recommended when speaking of Mortification. –

I go on next to speak of Particular Fractures.

Of Fractures of the Bones of the Nose.

The bones of the Nose directly in front are so strong from their arched situation that they are seldom fractured there. they

are

+ And as soon as inflammation takes place the lint may be removed

are most commonly fractured at the side
The fracture generally arises from external violence, and the bones are depressed.
When fractured it is easily known by the nose being disfigured. If there is no depression nothing more is necessary than to apply a slip of adhesive plaister across the fracture. If it be depressed it is to be replaced, by introducing a fine wire or probe, or some such thing, into the nostril, & under the depressed pieces of bone then with the finger on the outside, and the probe on the inside, it is very easy to re-place them, and as no muscles act upon those bones, they will remain in that situation unless some external violence be used; however if there be no external wound, it will be well enough to apply a piece of adhesive plaster over the nose.
If the bones will not remain in their situation, a little lint should be introduced into the nostrils under the fractured bones so as to support them in their proper place.
In about three weeks the union is generally completed.

Fractures of the Lower Jaw.

It is most commonly fractured either on one side or other of its symphysis, sometimes between the angle & the Jaw: and the

× The Coronoid process is sometimes broken this is however a very rare occurence

the condyloid processes are sometimes fractured. It is generally fractured at right angles: but it sometimes is oblique. A fracture of the Jaw may in general be known, by the row of teeth being uneven, by moving of the Jaw, the patient has considerable pain; and as the jaw is very thinly covered, the place of fracture may be very easily felt. If any of the teeth should be loose, they must not be taken out, but replaced, if they are taken out it makes the fracture a compound one, and sometimes occasions death. The treatment of such a fracture is very simple, all that is necessary after putting the ends of the bones in their proper places, which is very easily done, is to press the lower jaw against the upper one which serves as a splint: a bandage is then to be applied round the head, before the chin, and over the front part of the Jaw, to keep it firm against the upper jaw. Sometimes a piece of adhesive plaister is necessary to be put along on the basis of the chin, to prevent the bandage from hurting the skin.

When the condyloid processes are fractured there is some difficulty in

replacing

replacing them, owing to the action of the muscles. An attempt should be made to place the front part of the jaw in its proper situation, if that cannot be done it should be brought as near together as possible, and confined by a bandage as before.

The diet of the patient should be liquid and he should avoid talking or moving the Jaw in any way. In about four weeks the bones will be completely united.

Fractures of the Spine

They may happen any where between the Atlas and Os Coccygis. It happens from some external violence against it, or from falling, or violent bending of the spine. When it takes place in the cervical vertebra above where the phrenic nerve passes out, it proves immediately fatal, because the diaphragm is rendered paralytic. When it occurs low down, the patient will live four or five days, and sometimes for months after it has happened. The parts below the fracture immediately become paralytic and insensible, owing to the spinal marrow being pressed by the dislocation of

the

the vertebræ which generally happens in fractures of the spine, or from the blood which is effused pressing upon it or from pieces of bone. The faces are generally discharged involuntary, the urine is not: and the patient is unable to discharge it. a catheter should therefore be introduced two or three times in a day in order to draw off the water. In every instance of fracture of the vertebræ which I have seen there was a luxation, & the spinal marrow being compressed produced palsy below the fracture. I never heard nor knew an instance of a fracture of the spine, attended with palsy in which the patient recovered: they generally die owing to the soft parts from constantly laying upon them, mortifying, hectic fever is brought on, which terminates in death. —

Very little can be done in such cases, extending the spine has been tried & it has in one instance produced temporary relief. I once tried it myself in a fracture of the 5th cervical vertebræ, by putting a strap round the chin & neck and fastening it to the head of the bedstead. I then applied a strap upon each ancle, by which considerable extension was made and these were fastened to the foot of the bedstead: after the extension was

made

By forcing the viscera of the abdomen against the diaphragm

× The back should be occasionally be rubbed by the hands of an assistant to counteract if possible the effects of pressure.

made, he was able to move his arms in any direction, which he could not do before. He died on the third day. In order to examine the patient's back, never turn him upon his belly, for it prevents respiration, & causes immediate death, he should be turned on to one side only.

In order that the patient may lay as comfortable as possible, a circular hole should be made in the mattrass, and the patient laid over it so that the faces may be discharged without moving him which occasions a great deal of pain. ×

Fractures of the Sternum.

This very seldom happens, I never saw but one case: in this the patient compained of great pain in his breast, when he squeezed any thing. A bandage was applied round the Thorax, & a compress upon it: and in few weeks the patient was well. If inflammation should supervene the anti-phlogistic regimen should be used.

Fractures of the Ribs.

They are generally fractured about

their

general and topical, Blisters,
antimonials

their middle, and the fracture is transverse; they are but very little displaced when fractured, they cannot be upwards or downwards from the action of the intercostal muscles: but they may be by one end passing over and beyond the other. When fractured the patient feels pain in breathing, is troubled with a cough, and the surgeon if he passes his fingers along the ribs, & at the same time desires the patient to cough, he will feel the ends rubbing against each other, and will also hear the crepitation: sometimes blood is coughed up, this stops when the rib is replaced. — A bandage should be passed round the thorax, and drawn so tight as to prevent the ribs from moving and shoulder straps to help the bandage from slipping down is all that is necessary.

Sometimes the cough and pain returns from the parts becoming inflamed: it is then to be treated as a pleurisy, by bleeding, low diet, and mucilaginous substances to prevent the cough. The rib will generally unite in three or four weeks. There sometimes may be felt at the fracture a crepitation of the soft parts, as if wind had got in between

the

\+ and not between the broken rib and another, otherwise we convert it into a compound fracture.

the skin and cellular substance, which sometimes does happen from the rib puncturing the cellular substance. this may be prevented by a compress over it, and a bandage applied tight round the chest.

It has sometimes been so inflated as to be four or five inches deep to the sternum it is then called Emphysema. - it is in that case necessary to make an incision between the ribs, - the incision should be made between two sound ribs, and at the upper edge of the rib. this method will put a complete stop to it.

Fractures of the Bones of the Pelvis.

These very rarely happen. I have seen a fracture of the Os Ilium and Pubis, but never of the Os Sacrum. The patient is unable to walk, and by taking hold of the superior anterior spinous processes of the Ilium, crepitation may be made.

It should be treated with a broad bandage round the pelvis, and the patient kept at rest. When the Pubis is fractured it may be known by opening the legs & moving them, crepitus may be heard. It should be treated in the same manner as with fracture of the Os Ilium. - If inflammation

comes

comes on bloodletting and low diet are to be used; purges are inconvenient and injurious on account of the motion which they would occasion in the parts.

Fractures of the Clavicle.

It is most frequently fractured about its middle, obliquely from without inwards and forwards, sometimes vice versa. - sometimes it is fractured at the sternal and humeral extremities.

It is so thinly covered with muscles that the fracture may be easily seen or discovered by passing the finger along it the fissure is easily felt, the shoulder hangs lower than the other, the patient cannot rotate the arm, and it is impossible for him to raise it to his head: the patient inclines his body to the fractured side.

When the sternal extremity is fractured, the sternal part remains in its situation, the other is depressed and a considerable fissure may be felt.

When the scapulary extremity is fractured there is seldom any displacement

The ancient method of treating this fracture was by means of the figure of 8 bandage applied round the shoulders, this however does not answer the purpose.

The

+ as they are very apt to slip.

The method invented by Mr. Desault is the only one which answers the purpose completely; and it is the one I make use of. It is as follows. 1. A pad made in the form of a wedge, is to be placed under the arm with its large end in the axilla, which is to be secured there by a bandage round the body, the arm is then to be placed down upon the pad, with the fore-arm across the abdomen, and secured there by means of a bandage passed over the arm and round the body, the pulse should be felt ~~at~~ in order to know when you have drawn the bandage tight enough - a bandage is next to be passed over the shoulder and under the elbow to push the arm up and help it so.- the hand is next to be supported in a sling: then a broad bandage is to be applied over the whole to keep them in their places. The dressings should be renewed every few days, & the parts examined. It generally unites in three or four weeks.

Fractures of the Scapula.

This is very rarely fractured. The acromion is most commonly fractured, the coracoid process very rarely, - sometimes the inferior angle is fractured. When the

of

acromion

acromion process of the scapula is fractured, it is so thinly covered with integuments that the fracture may easily be discovered, and by the top of the shoulder being depressed. - it is easy replaced, by pushing the head of the os humeri up against it: and it is to be kept so by a bandage applied over the shoulder & under the Elbow, in the same manner as for a fracture of the Clavicle. When the angle is fractured it may be discovered by passing the finger along the basis of the scapula, the fissure may be felt: and by moving the arm with the other hand, you will find that the lower fragment does not move, and the crepitus may be heard. - the lower fragment is drawn downwards and forwards. - In order to bring the fractured edges in contact again the arm is to be brought forward, and the hand elevated to the top of the opposite shoulder: which is to be secured there by a broad bandage passed round the arm and body. It generally unites in about three weeks. - If inflammation supervene, bloodletting & low diet should be used.

Splint for the Arm

Fractures of the Os Humeri

This bone is most frequently fractured about its middle: - the fragments are seldom much displaced: - when it is fractured the patient experiences considerable pain, and a difficulty of moving the arm: and by taking hold of the arm it will bend at the place of fracture, and the crepitus may be heard. If the fracture be oblique it may be reduced, by first bending the elbow so as to relax the muscles of the arm: an assistant is next to grasp the arm at the condyles and make extension, while another assistant stands behind the patient, grasps the shoulder and makes counter extension, while extension and counter extension are thus going on, the Surgeon can very easily place the bones in their natural position the extension being kept up, a bandage is then to be applied round the arm, (the common method of applying the bandage from the elbow to the shoulder, if made tight causes a swelling of the forearm,) it is best to begin the bandage from the hand and apply it the whole length of the arm. Then three splints of stiff pasteboard, reaching from the shoulder to the elbow, are to be applied & fastened by

means

means of a roller round the arm. If the arm be very large four splints should be used. The arm is then to be bent, a piece of linen several times folded is to be placed between the arm and thorax, and instead of a sling a broad bandage is to be applied round the arm and body, so as to confine and support the arm completely.

After eight or ten days the dress-
-ings should be removed in order to see whether the parts are in their proper places & if they are not, they can then be put in their proper place. It generally u-
-nites in about four or five weeks.

It is sometimes fractured near its upper extremity, at what is called its neck. This in general arises from some great violence upon the bone.

When fractured the patient complains of a great deal of pain, is unable to move the arm, and by passing the fin-
-gers along the humerus, the depression may be felt; - in this fracture the inferior fragment is always pushed into the axilla, which sometimes produces ecky-
-mosis, it may be very easily felt, - but it is sometimes mistaken for a luxation.

It may be distinguished from a luxa-
-tion by the following signs. When luxated

the

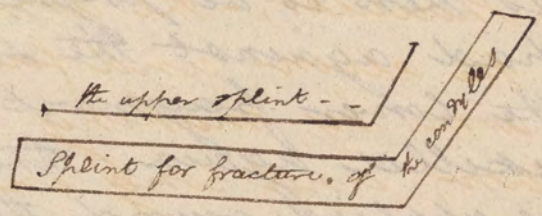
Splint for the arm.

the depression will be felt just under the acromion process of the scapula, and the round head of the humerus may be felt in the axilla. In a fracture the depression is generally an inch & a half from the acromion process, and the sharp edge of the bone will be felt in the axilla & by making extension & counter extension the crepitation may be heard. After reducing the fracture as above and placing them in their proper position, having applied the bandage from the hand to the top of the shoulder, a pad should be placed in the axilla, and reaching to the elbow the arm is then to be pressed close down upon the pad against the side so as to prevent the lower fragment from getting into the axilla again, - three splints are next to be applied round the arm, a broad bandage is then to be applied round the arm and body, and drawn so tight as to prevent the arm & forearm from moving in the least. The dressings should be removed after eight or ten days in order to replace any of the parts that may be displaced. It generally unites in five or six weeks.

It is sometimes fractured near its lower extremity, and sometimes we

meet

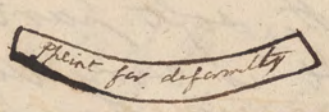
and by taking hold of the two condyles & moving them in separate directions crepitus will be heard –



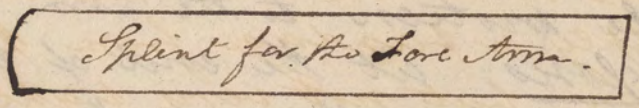
meet with a transverse fracture just above the condyles, and a longitudinal one dividing the condyles. This fracture may be easily known - by taking hold of the arm it will bend at the place of fracture, and by making extension crepitation may be heard; and as the bone is slightly covered with soft parts it may be easily felt. It is very difficult to secure this fracture properly: - the best method of doing it is to first apply a bandage from the hand to the elbow, the fractured parts are then to be placed in their proper position afterwards the bandage is to be continued up to the shoulder. - the arm is next to be bent at the elbow, and four splints made to fit the arm, by making a right angle at the elbow, and long enough to reach from the shoulder to the fingers, are to be applied, and bound on with a roller. the fore arm may then be supported by a sling. A fracture of the condyles should be treated in the same way. —

In about eight or ten days the dressings should be removed in order to give a little motion to the arm and prevent <u>anchylosis</u>; at the end of eighteen or twenty days the arm may be straightened. The arm is often disfigured by

making



The fore ends of the fractured bones sometimes approach each other.



making a kind of bow at the place of fracture, this may be prevented, as soon as the bones are so united as to allow the arm to be extended, by applying splints with their concave edges uppermost, & the arm kept extended. (this shape) — It will unite in about five or six weeks. —

Fractures of the Fore-Arm.

The ulna and radius are often broken together at the same place. — When this happens the arm is disfigured the patient is unable to perform pronation and supination of the hand, it bends at the place of fracture, & crepitus may be heard. The bones seldom pass each other, I never knew an instance.

The patient being seated, an assistant is to take hold of the fore arm just at the elbow, and another should take hold of the hand just as if he were going to shake hands, in this manner extension & counter extension are to be made, while the extension is going on, the surgeon should place the bones in their natural position and apply a bandage from the wrist to the elbow, but not very tight, for if it be too tight it will push the bones close to each other, and displace them — two

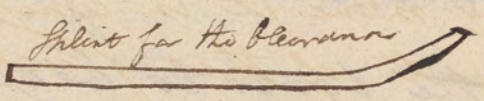
splints

* The splints should be long enough to extend from the Elbow to beyond the fingers, and broad enough to prevent the last bandage from pressing laterally on the bones — The thumb should always be kept uppermost and extending out of the dressings —

splints of firm pasteboard are next to be applied, one on each side of the arm and secured by a bandage, & the arm is then to be supported in a sling. After a short time the dressings should be re-moved and the parts examined. It commonly unites in about four or five weeks.

One of the bones is frequently only fractured. The radius most frequently it is generally fractured about two inches above the wrist. The fracture is easily discovered - by rotating the hand you will perceive that the upper fragment does not move, and from the depression which is made. It is sometimes mis-taken for a luxation of the wrist, but the fracture may be known by the crepitation and by the lower part of the bone moving with the hand. It should be reduced & the dressings applied in the same man-ner as for fracture of both bones. -

The ulna is very rarely fractured it only happens from violence upon it. when it is fractured it requires the same treatment as a fracture of the radius.



The bend of the elbow being filled up with tow &c

Fractures of the Olecranon

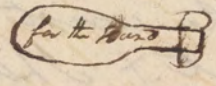
This process is now and then fractured by falling upon it. When this happens the patient is unable to extend the arm, and it is so thinly covered with soft parts that the figure may be felt, and by taking hold of it you may move it in any direction.

The treatment of this fracture is very simple, the arm should be extended, and a long straight splint reaching from the shoulder to the hand should be applied on the inside of the arm: a bandage should first be applied from the wrist to the shoulder and then the splint.+ I have never found it necessary to put a compress upon the elbow. In some cases the skin folds at the elbow, in that case, the skin should be pushed up as the bandage is applied to prevent it from getting between the fractured ends. In about eighteen or twenty days the dressings should be removed in order to examine the situation of the parts, and to make a little flexion and extension of the arm. If there be an external wound, or if the soft parts be considerably contused it will be proper to remove the dressings every day or two.

It generally unites in about six weeks.

The coracoid process of the Ulna is some

— times


for the Bind

-times fractured. When this happens if the patient attempts to bend his arm the bones are both dislocated backwards. It is to be treated by bending it a little at the elbow, and a splint made to fit it is to be applied, & fastened by a bandage.

Fractures of the Metacarpal Bones and Fingers. — —

Fractures of the metacarpal bones seldom happen, when it does-after placing them in their proper position a bandage should be applied round the hand and wrist, and a shingle or stiff pasteboard, placed in the palm of the hand, reaching to the ends of the fingers so as to keep them extended, and secured by a bandage: the hand may then be supported in a sling.

The Fingers are sometimes fractured when they are they require the same treatment as fractures of the metacarpal bone,- it is best to keep all the fingers extended, and prevent motion of any kind, when one only is fractured,- care should be taken not to prevent the circulation. In compound fractures I would advise you to endeavour to preserve it, however great the surface that is exposed, &

even

+ There is also an angular projection either on one side or on the top ∴ it bends at the place of fracture.

even if the joint be exposed, I would endeavour to preserve it.

Fractures of the Os Femoris.

This bone is very frequently fractured and requires more attention than any other fracture. It is most frequently fractured near its middle, sometimes at its neck, and sometimes near the condyles. - the fractures are either transverse or oblique. In transverse fractures the bones remain in their places, & very soon unite again. When oblique the bones lap each other, and the leg becomes shorter.

In a transverse fracture of this bone near its middle, the patient cannot move it, & if the limb be moved, crepitus may be distinctly heard, the foot is turned outward, & the limb is not shortened. + The treatment of this fracture is very simple, all that is necessary is to apply a bandage from the knee to the thigh, and then four splints fastened by a bandage. -

When fractured obliquely the bones generally lap each other, which occasions tumefaction, the leg becomes shorter, the patient is unable to move it, and it

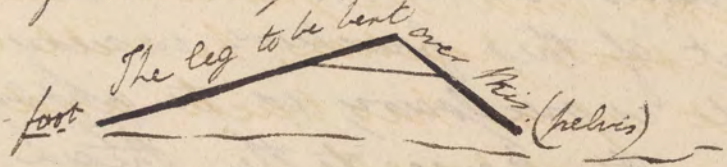
will

† One was that of making counter ex-
-tension by passing a band round the body
under the arms, & fastening it to the head
of the bed, & extension was made by passing
a band round the foot of the injured side
& tying it to the foot of the Bed.

Another was the tying a large weight
to a band which was passed round the foot
which being over the foot of bed end, – this
however did not answer the purpose —

Another was the tying of the injured limb
to the sound one & making it serve as a
Splint. – this was very inconvenient. –

Another method was by means of a splint
something of this shape. —



will bend like a joint at the place of fracture.

Many different methods have been used for treating this fracture. I shall however mention but one. The treatment used in former times for this fracture does not prevent the leg from being much shorter than the other. The invention of Mr Pott some years ago, and which is yet followed does not answer completely. His method is to place the patient on the injured side, to bend the thigh on the pelvis, and the leg on the thigh, by this method, the muscles are relaxed, and the bones are kept in their places; but I never knew an instance of its being completely successful. The placing of the patient on his side is very inconvenient, and the patient cannot be kept in that position, he will in a few days get upon his back, and then the bones are displaced.

The method invented by Mr Desault, - viz of placing the patient on his back, and extending the limb I think is far preferable, to any other that I have seen; and patients prefer it.

I once had the opportunity of trying the experiment. A man who had fractured the Os Femoris was brought to the Hospital, the Surgeon who then attended there preferred the bending of the leg and placing the patient on his side. After two or three days the patient complained of being very tired and was with difficulty kept upon his side. When he got well enough to walk upon crutches he was discharged from the Hospital.

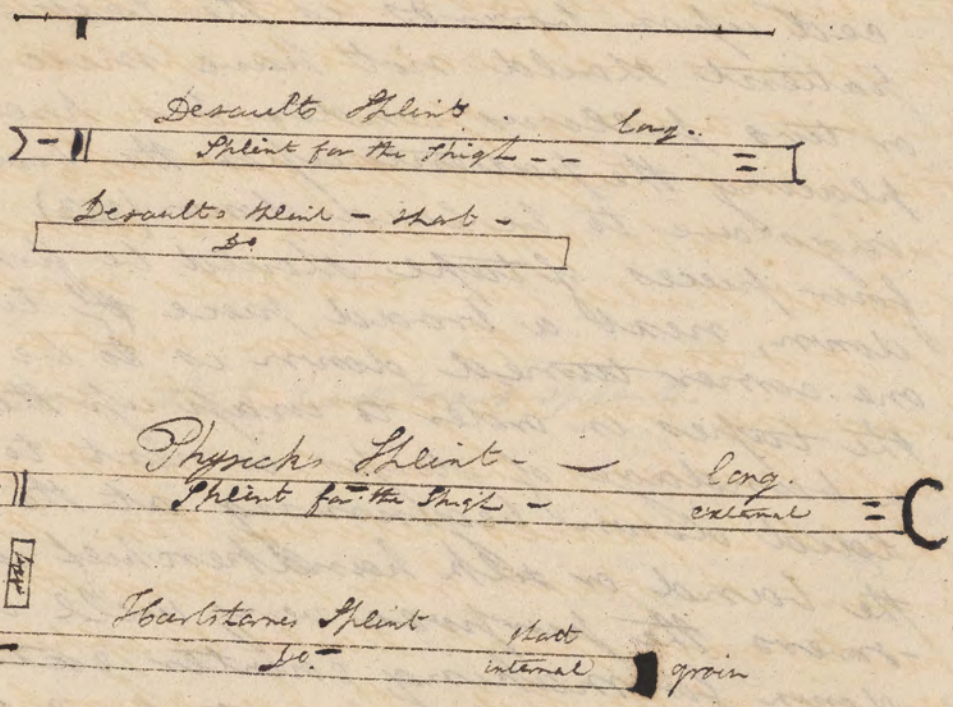
In walking along the streets one day his crutch slipped from under him, and he had the misfortune to fracture the leg in the very same place again. He was brought to the Hospital again, & I was attending there, as I preferred Mr. Desault's method, I placed him in that position with his leg extended - two or three days after I asked him which method he preferred, he said that he laid much more comfortable now, and that lying on the back was much the easiest. - I have no doubt but it is the easiest posture, the patient has more points to rest upon and no muscular action is necessary. When laid upon the side there are but few points to rest upon, & it is necessary to exert some muscular action.

In

& next a flat pasteboard splint.

In proceeding to treat this fracture the first thing to be attended to is the bed. It should be made even and hard so that the patient may lie entirely level upon it.- a mattrass placed upon boards is the best thing, the patient should not have more than one or two pillows under his head. Before placing the patient upon the bed the dressings are to be laid down (viz) three or four pieces of tape should be first put down, next a broad piece of linen with one corner turned down is to be laid upon the tapes, in order to wrap up the splints a bandage of strips is next to be laid laid down beginning at the top: then the band or silk handkerchief which answers the purpose very well is to be laid down for making counter extension. the patient is next to be laid upon the bed with the fractured leg immediately over the dressings upon the bed. an assistant then taking hold of the foot makes extension while another assistant takes hold of the patient under the arm pits and makes counter extension, while this is kept up the surgeon places the bones in their proper situation, and then applies the bandage of strips moderately tight, if too tight it will cause the limb to swell, next

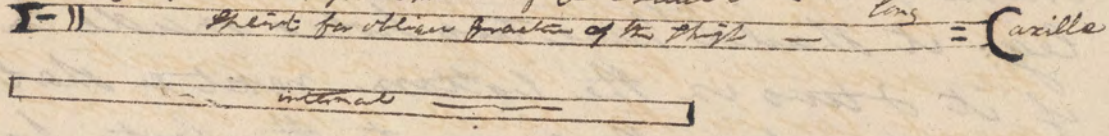
the


Desault's Splint.
long.
Splint for the thigh - -
Desault's Splint - short -
do
Physick's Splint - -
long.
Splint for the thigh -
external
Hartshorne's Splint
short
do.
internal
groin

the band or silk handkerchief is to be brought over the thigh, so as to rest upon the tuberosity of the ischium; and make counter extension another silk handkerchief is to be applied round the ancle, crossed upon the instep, and tied beyond the foot so as to make extension the splints are next to be applied there should be first a long splint reaching from above the pelvis beyond the foot two or three inches, to be applied on the outside of the leg: it should have two holes made in the top of it & two in the bottom: next a short splint reaching from the groin to the foot: bags of chaff reaching the whole length of the splints should be placed between them & the leg to prevent the splints from hurting the leg. a pasteboard splint should be applied upon the top of the leg: the handkerchief is next to be passed through the holes at the top of the splint and counter extension made the handkerchief upon the foot, is to be passed through the holes at the bottom of the splint, and permanent extension made, before doing this the splints are to be rolled up in the broad piece of cloth which was laid down for that purpose, the tapes are next to be tied to keep the splints in their places, a broad bandage should be put round the pelvis to keep the long

splint

Physick's improvement of Desault.



splint close to the body and in its proper position. –

I shall now make a few remarks upon Mr. Desault's splint, and mention the improvements which I have made. The long splint of Mr. Desault's reaches from two or three inches beyond the foot up to the spine of the Ilium: the addition which I have made is to extend the splint up to the axilla, and made so as to fit the axilla, this I think a great improvement for by the head of the splint being in the axilla, and made so as to press upon it, the pressure of the band round the thigh is not so great, and by lengthening it the ~~band round the thigh is not so great~~ holes through which the handkerchief passes may be made much higher up so that the extension may be made perpendicularly with the leg: whereas in Mr. Desaults, the holes are so low down that the band passes obliquely across the thigh, and has the effect of drawing the upper fragment outward. In order to make the extension more perpendicular a strap may be tied to the handkerchief as it passes across the back, and brought round on the opposite side & ties to the handkerchief upon the abdomen. Another improvement is that made by Mr. James

Hutchinson

Hutchinsons Splint.

Hutchinson which is fastening a block about an inch wide & two inches in length about three or four inches from the end of the long splint: the handkerchief of the foot is to pass over the end of that block & then be fastened to the splint: by this means the extension is made in a more direct line with the leg.

When a fracture of the Os Femoris is treated in the above way, I have never knew or seen an instance of the limb being shorter than the other

There are however some objections to this straight splint & position - one is that the leg when extended rests entirely upon the heel, and after laying upon it for some time, it often gets painful, and very sore this may be remedied by covering the heel with a soft piece of leather spread with adhesive plaister. if this does not answer three or four pieces of leather spread with adhesive plaister should be applied one upon the top of the other, untill it is made of considerable thickness, a hole should be cut through the middle of it, and it should be applied upon the heel with the hole immediately over the sore this will keep the sore from being pressed upon.

Sometimes I have relieved it by taking a piece of flannel and rolling up both ends, place the heel between the chink made made by the two rolls brought nearly together - Another objection is that the

hand

band round the ancle, which crosses the instep, & ties under the foot, by which extension is made if drawn too tight, occasions great deal of pain, and produces a sloughing of the part & sometimes a very troublesome ulcer. This may in some measure be avoided by not drawing it very tight at first, and every day tightening it more and more, untill you get the foot of the same length with the other. Sometimes the patient is not able to bear the band at all - in that case I have found a piece of buckskin something in the form of the top of a laced boot, made to lace tight to the ancle, and a couple of straps fastened underneath by which the extension may be made to answer the purpose. I prefer buckskin because it will not slip from where it is placed, and it conforms to the shape of the leg so as to make the pressure equal on the ancle & instep. -

The Os Femoris is sometimes fractured at its Neck.

When this happens the patient will tell you that he heard the crack, - by comparing the legs you will find it much shorter than the sound one, - by taking hold of the leg crepitus may be distinctly heard by putting the hand on the trochanter major and then rotating the leg you will perceive

that

+ and after you have reduced it will immediately return back if the extension be discontinued —

+ the spine at right angles

that the Trochanter moves on its own axis, you will also find the toes turned outwards, - it is sometimes taken for a luxation of the head of the thigh bone upwards and backwards, but it may be easily distinguished: - in a luxation the toes of the foot are turned inward, and you cannot turn them outwards, and crepitation cannot be made. In examining an injured hip, the patient should be placed upon his back, and then see that the pelvis is straight, this is to be done by feeling for the superior anterior spinous processes of the Ilium, then pass a line across from one to the other, if it cuts ~~them perpendicularly and makes a straight line~~ the pelvis is straight. The apparatus is then to be applied, and in general it is very long in healing: in three or four months it unites.

When the fracture happens inside of the capsular ligament, the fractured ends are not displaced. It is sometimes very difficult to ascertain whether it is fractured or luxated. - if the patient complains of a great deal of pain, is unable to walk, & cannot raise the leg, it would be best to apply the apparatus. —

Fractures

Fractures of the lower part of the Os Femoris just above the Condyles.

When this fracture is transverse the parts are not displaced. It is most generally fractured obliquely, when it is the bones pass each other, the inferior fragment by the action of the muscles is drawn upwards and backwards.

After making extension and counter extension, and having applied the bandages and splints as in fractures of the middle of the bone, a pillow should be placed underneath the leg, & compresses in the Ham to keep the leg steady, and prevent the lower fragment from being pulled down. Sir James Earle's method of treating a fracture of the thigh bone has been used by many with success. In transverse fractures of the thigh, this method answers very well; but this fracture may be treated in almost any way. When the fracture is oblique, it does not answer the purpose it tends to make the pelvis crooked. —

Sometimes there is a longitudinal fracture of the Condyles, I never saw it but twice — One was in a maniac in the

Pennsylvania

+ In all cases of fracture at the lower end of the thigh bone we should be careful, by the intervention of pads &c to preserve that obliquity with which the leg and thigh meet in a natural condition of the parts —

Pennsylvania Hospital, who jumped out of the garret window into the area, he alighted upon his knees: and fractured both the condyles longitudinally, and a piece of the fragment protruded through the soft parts, making it a compound fracture: extension and counter extension was made, the splints applied, and I endeavoured to unite it by the first intention but failed: he died in a few days.

X

Fractures of the Patella

It is sometimes fractured obliquely, sometimes longitudinally, but most frequently transversely. Transverse fractures commonly arise from the violent action of the muscles. Oblique fractures arise from some great violence, by falling upon it &c.

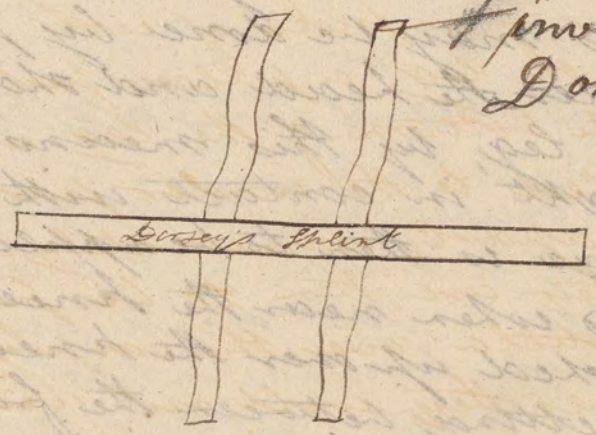
When fractured transversely the upper fragment is very much drawn up by the action of the muscles, and when the leg is bent, the inferior fragment is drawn down by the leg so as to be two or three inches apart. If the patient is erect when the accident happens he falls immediately, and bears the map: he loses the power of extending the leg, - it is so thinly covered with soft parts that the fracture may be easily felt, and by taking hold

x The limb should be kept flexed on the pelvis, by elevating it.

Z

of the fractured pieces crepitation may be heard. the patient is also unable to walk forwards, but draws the leg after him when he attempts to walk. It not unfrequently happens that a small blood-vessel is ruptured and flows into the cavity of the fracture, and makes a considerable tumor, the fracture may however be felt through the coagulum. In order to relax the muscles the leg should be extended and the thigh bent upon the pelvis, this may be done by putting pillows under the head and shoulders, and under the leg, by this means the fragments are brought in contact with each other a bandage is then to be applied from the ancle, and when near the knee, the skin is to be pushed up over the knee, to prevent it from getting between the fragments, a compress is then to be applied above and below the fragments, and secured by the bandage passing round them, and should be continued up to the hip. A splint is then to be applied underneath the leg, a piece of flannel should be put between the leg and splint, and then a bandage over the whole. X At the end of a week or ten days the dressings should be removed in order to see whether the fragments are in

their



† invented by Dr Dorsey

their proper position. The fragments can very rarely be placed so near to each other as to unite by bony union, they generally unite by a strong ligament which intervenes, this is much better than bony union, for anchylosis most commonly takes place, and causes a stiff knee. When it unites by ligament, the patient is able to extend the leg & walk as well as ever.

Another method of treating this fracture is by means of a piece of wood excavated so as to fit the leg, a pillow put over it, & placed in the bottom of the leg with the linen straps nailed to the under part at all an inch or two apart, immediately under the patella, they are then to be passed above & below the patella over the compresses & fastened.

Sometimes they will not unite but will remain three or four inches apart, & the patient is not able to use the leg, because the muscles lose their power of contracting — by sitting upon a table frequently endeavouring to lift the leg up, after doing so a few days the muscles will require a reaction again & the patient will be able to use his leg again.

In about a month the dressings should be removed in order to flex the leg a little. The dressings should afterwards be frequently removed, & the leg flexed. —

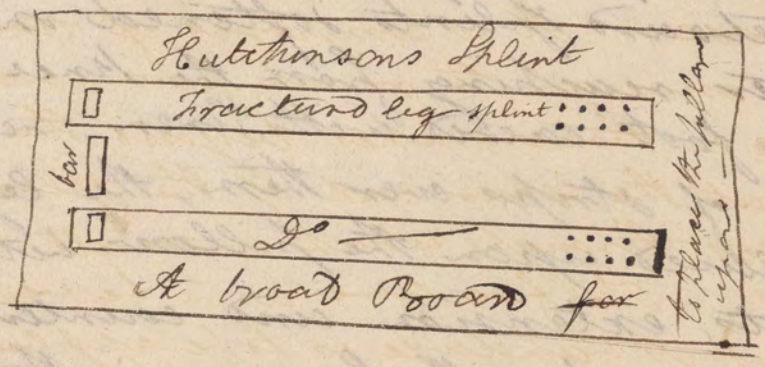
Fract-

+ The pillow should be placed upon a Board.

Fractures of the Bones of the Leg.

They are sometimes fractured near the lower or upper extremity, but most generally in the middle. — They are sometimes fractured both at the same peace. When fractured obliquely the fractured ends pass each other When transverse the bones are very little displaced, the parts are so thinly covered with soft parts, that the figure may be easily discovered, - by making extension the crepitation may be heard. When both bones are broken it may easily be discovered by the limb being disfigured & by crepitus. In a transverse fracture, the treatment is very simple, the limb should be extended & peaced upon a pillow, but before putting it upon the pillow, the bandage of strips should be put upon it, next a couple of pasteboard splints softened in warm water reaching from the knee to the sole of the foot covered with linen, next a bandage of strips over them, the leg is then to be peaced upon the pillow between the splints, extension and counter extension being made, the surgeon is then to apply the bandage of strips, then the splints & over them the other bandage of strips

In


Hutchinsons Splint
Fractured leg splint
bar
Do
A board Board for
to place the pillows upon

In order to keep the leg steady a couple of straight pieces of shingle should be applied on the outside of the pillow & confined by tapes:- or it should be placed in a fracture box. To prevent the bed clothes from pressing too much upon the toes, a couple of half hoops tied together & placed over the foot, will prevent it. In about eight or ten days the dressings should be removed & the limb examined. It will in about five or six weeks be completely united. —

When the fracture of the bones of the leg are oblique the action of the muscles draws the inferior fragment upwards & backwards When this fracture happens permanent extension is necessary to reduce it & keep it in its place. Mr Desault's apparatus improved by Dr James Hutchinson answers his purpose. It is composed of two splints long enough to reach from above the knee to two or three inches beyond the sole of the foot, at the lower end of the splints there are mortises through which a small bar of wood passes. The fracture is to be reduced as follows, 1. A bandage is to be applied over the limb from the ancle to the knee, next four pieces of tape, two on each side of the leg are to be applied just below the knee

fastened

X And is not liable to the same objections as the Short Splints, which make counterextension at the knee

fastened by a roller round & round the limb, by which counter extension is to be made:- next a bandage or handkerchief round the ancle, crossing the instep and tying under the foot, by which extension is to be made: the splints are then to be applied, and the tapes passed through the holes made in the top of the splints, and tied there, to make counter extension.- bags of chaff are to be placed between the leg & splints, then the bandage which goes round the foot is to be tyed round the bar of wood at the bottom of the splints, and drawn so ~~tight~~ as to make the necessary extension: the splints are then to be kept together by tapes tied round them. —

Sometimes the band which goes below the knee causes the limb to swell very much, by its compressing the vessels; this may sometimes be remedied by raising the limb when this does not succeed, the dressings must be taken away. - I have found the ~~by~~ application of Desault's long splint ~~after~~ ~~to~~ ~~wards~~ answers the purpose exceedingly well. After all the dressings have been applied the limb should be placed on a soft pillow, & if practicable in a fracture Box.

Sometimes one of the bones of the Leg only is broken. Whenever the tibia is fractured there is very little displacement

† It sometimes arises from mechanical violence immediately upon the part.

of the ~~left~~ parts, owing to the fibula acting as a splint upon it. The fracture may be discovered by taking hold of each fragment and then placing the finger on the part where the patient complains of pain, which he always does in fracture, then by bending the leg a little the fissure may be felt, and by making a little extension, crepitation may sometimes be made.

When the fracture is transverse the patient can walk about without much incomenience, and frequently they will not believe that it is fractured; it is therefore necessary to be very careful in your examination before you pronounce it to be a fracture. The treatment should be as follows Extension and counter extension being made by an assistant grasping the leg just below the knee, and another hold of the foot & heel the surgeon is next to replace the fragments, & then the bandage of strips pasteboard splints &c are to be applied, as have been mentioned in a transverse fracture of both bones, which see page 241.

When the fibula is fractured it generally takes place near its middle - a violent and sudden twisting of the foot outwards frequently causes this bone to be broken. When it is fractured there is a depression at the place

of

+ of the new adhesions which are formed

of the fracture, and the foot is turned outwards. The dressings are to be applied the same as in fracture of the Tibia. A couple of flour barrel hoops cut in two and tied across each other in the middle, should be used to support the bed cloaths, and prevent them from touching the foot.

It is generally found best to wet the dressings after they have been applied, with some liquid to prevent a swelling of the limb. Have used brandy, vinegar oil & vinegar, spirits &c.a -

Of Dislocations,

When the articulating surface of a bone is forcibly pushed out of its place, it is called a <u>dislocation</u>. When a joint is dislocated, the patient complains of a great deal of pain, and the motion of the joint is very much impeded. If the surgeon is called early it is easily reduced, but if of long standing, it is difficult owing to the contraction of the muscles. The most effectual method of doing it is by bloodletting, purges and low diet. If the patient should

refuse

+ intoxicatio has been recommended

refuse to be bled, I have intended to try relaxing of the Muscles by giving an Emetic and ~~relating a nauseci~~ or injecting tobacco so as to produce sickness.+ The rupture of the capsular ligament is the cause why the limb cannot be replaced in its position again, from its lessening the cavity. In order to reduce a luxation of long standing it is found necessary to use pullies and ropes so as to act upon the dislocated joint only. I have lately employed men & prefer it because the force can be directed in any way, & stopt as soon as is necessary.

Luxation of the Lower Jaw.

This bone is never luxated in any other way only by the condyles forward over the tubercle of the Zygoma: Sometimes only one condyle is luxated, but most commonly both. This accident most frequently arises from yawning, opening the mouth very wide, very seldom from external violence. When recent it is easily reduced, but when several weeks have elapsed it sometimes becomes very difficult.

When the jaw is luxated, the mouth cannot be shut, and the patient cannot speak it is easy reduced by applying the thumbs (covered with a thick glove or towel. to prevent

† By violence done to the shoulder.

‡ A pad should be placed in the axilla

prevent their being bitten when the jaw is shut) in the mouth just over the molar ~~teeth~~, and pressing the jaw down with them, and with the fingers under the Chin press the fore part up, & then just immediately backwards, it will very easily slip into its place again.

Luxation of the Clavicle

It is seldom luxated. The sternal is sometimes luxated, upwards, inwards and forwards.† It is easy reduced by forcibly pulling back the shoulders, and then it may be replaced: and it is to be kept so by applying Desault's bandage in the same way as for fractured clavicle.††

The humeral or scapular extremity is sometimes ~~fractured~~ luxated - when it is the extremity of the clavicle projects upwards, & over the scapula, the arm falls, and it is easily replaced by pushing the arm up, and it is to be kept so by a bandage over the shoulder and under the Elbow. it often requires the bandage for eight or nine weeks before the ligament gets strong enough to bear the weight of the Arm.

Luxation

Luxation of the head of the Os Humeris

This is very frequently dislocated, more frequently than any other bone. It may be luxated downwards, and inwards, forwards & downwards, and backwards. It is most generally luxated downwards & inwards.

When this happens the patient cannot put the arm down to his side, he is unable to move it, a depression may be felt immediately under the acromion process of the scapula, and the round head of the bone may be felt in the axilla.

If it is recent the surgeon may often reduce it himself without any assistant, in doing so the arm should be bent at the elbow, and the palm of one hand should be placed upon the acromion process of the scapula in order to make counter extension, then with the other hand grasp the arm just above the elbow, by this means the surgeon may make all the extension that is necessary. It used to be the custom formerly to take hold of the patient round the body in order to make counter extension, but this does not answer, - the scapula should be the part on which the counter extension is to be made for when extension is made by pulling

the

the forearm, and counter extension, by taking hold round the body. the scapula is drawn along with the humerus, & prevents it from being replaced. - whereas when made on the acromion scapula, & it kept firm, the head of the bone passes into its socket without any difficulty.

When the surgeon fails in this method more force is to be used - for this purpose - a bandage or towel should be fastened upon the arm just above the elbow by a roller. then two or three assistants taking hold of the towel should make extension while as many make counter extension in the manner before mentioned. while this is going on the surgeon should move the arm upward & downward, & when he thinks the head of the bone is out of the axilla, & is up as high as the acromion process. by placing one hand under the arm in the axilla, & with the other taking hold of the elbow push it forcibly down against the side, the other hand in the axilla acts as a fulcrum & pushes the head outwards, & it slips into its place.

When this method fails bloodletting ad deliquium animi succeeds, as soon as the muscles become relaxed it may be easily reduced. I have reduced a luxation of three

weeks

† A broad band shall also be passed round the body in order to fix it: by which two or three assistants shall take hold

weeks standing by this method. Some surgeons doubt the propriety of reducing a luxation of long standing, they say it should not be attempted after the fourth week. I have myself reduced a luxation of three months standing, & have heard of a case being reduced of six months standing. —

In reducing a luxation of very long standing, a band or girt, lined with buckskin, and stuffed at the place where it is to be applied, should be made to rest upon the acromion process of the scapula, & to be kept there by a band passed under the arm, the other end of the girt is then to be fastened to a staple in the wall or floor, according to the situation of the patient whether lying down or sitting up, in this manner the counter extension is made the arm is then to be bent, and a towel fastened just above the elbow by a roller, pullies are to be fixed to it and fastened to a staple in the floor or wall an assistant then takes hold of the rope & pulls it & makes extension - while the surgeon takes hold of the wrist & elbow & moves the arm upward & downward in order to loosen it from its bed. I have lately made use of several men, instead of the pullies to make extension and

I

I think it is the best way - because the extension can be varied in any way when men are used instead of pullies which it is sometimes necessary to do. When the bone is drawn out of the armpit, the elbow should be suddenly pushed in, & the bone will return to its place.

Luxation of the bones of the Fore Arm at the Elbow Joint. -

When luxated it is generally up-wards and backwards, but sometimes laterally. The luxation forwards is impossible unless the olecranon be fractured. When luxated upward and backward the bones pass each other, the arm is half flexed, the patient is not able to bend it, the joint is disfigured and the olecranon may be felt very distinctly above its natural place.

When luxated laterally over the external condyle of the Os Humeri, the round head of the Radius, may be easily felt & is removed from its natural place. When luxated laterally over the internal condyle the ulna may be

* below the joint on the forearm

be felt and not the Radius. These luxations may be easily reduced if the surgeon is called very soon after the accident. Some surgeons say that after twenty days have elapsed they cannot be replaced – this is not true, for I have myself reduced a luxation of those bones after a month has elapsed. In reducing this luxation an assistant should grasp the arm just above the elbow, & another just above the wrist. Then the surgeon standing upon the outside of the arm grasps his two hands together and applies them to the inside of the Elbow, & pulls back the arm, while the assistants make extension & counter extension. the bones will then return to their places, the arm should then be bent, and kept in a sling for some time. Cloths wet with brandy or vinegar should be applied to the arm.

Luxation of the Wrist

It is generally luxated backwards & forwards; and it is said by some laterally

When luxated it may be easily felt & the arm is disfigured. It is reduced in the same manner with luxation of the elbow

After

+ The first bone of the thumb when luxated is extremely difficult to reduce, the thumb has been torn off in the efforts to reduce it & yet the luxation was not replaced — Dr Physick by accident succeeded in the only case he ever saw in replacing the joint by his hand — as the ligaments are the great obstacles which oppose its reduction it has been very judiciously proposed by one of the Bell's to introduce a couching needle obliquely under the skin and by it divide one of the ligaments _____

After it is reduced a splint should be applied on the inside & fastened by a roller.

Luxation of the Fingers.

They are so thinly covered with flesh that it may be easily discovered. It is only necessary to make extension and counter extension & then by pushing upon the joint it is easily re-placed.

Luxation of the Os Femoris.

It is the opinion of some that this bone is seldom luxated, but is fractured very frequently. I think luxation takes place three times to one of a fracture, at least I am certain I have seen three times as many luxations as fractures of that bone. It is luxated either upward and backward, downward & forward, upward and forward, downwards, and backwards. The two last are very unusual. When luxated upward and backward, which is most frequently the case, the head of the Os Femoris is lodged on the dorsum of the Ilium. The foot is turned inward, the patient cannot

cannot move the leg. the knee is bent the limb is shorter than the other, and if the surgeon attempts to move the limb the patient experiences a great deal of pain. When luxated downward and forward, the head of the bone is lodged in the foramen ovale, the limb is longer than the other, the foot is turned outward & if the surgeon attempts to turn the foot inward he is unsuccessful, and causes the patient a great deal of pain, on examining the trochanter major it will be found to be much farther from the crista of the Ilium than the other. When luxated upward and forward, the limb is shorter and the foot is turned outward. When luxated downward & backward the limb is longer than the other and the foot is turned inward. These luxations may be reduced by the same apparatus, and in the same way - as follows. — The patient should be placed upon his side with the thigh bent upon the pelvis & the leg upon the knee. - a band should be passed between the legs of the patient and resting upon the tuberosity of the Ischium should pass along under the

back

+

+ the patient being turned on his side—

back and over the belly, & beyond the patients head should be fastened to a staple in the wall above the head of the patient, then two or three bands should be secured by means of a roller just above the knee, and five or six assistants or as many as are necessary should take hold of these bands in order to make extension: while the extension is made the surgeon should rotate the leg which renders its reduction much easier, if the dislocation is upward & backward, on entering its place it will make a considerable noise, so that you may know the instant it has returned to its place. If this method should fail pullies should be used instead of men, and another band should be passed under the thigh × then the surgeon standing on the table or bed puts his knee upon the pelvis, & the band over his neck, & by this means keeps the pelvis firm with his knee, & also pulls the head of the bone up by the band round his neck & at the same time presses the knee of the patient down close to the other leg with his hand. When luxated upwards & forwards, the band last mentioned should be passed round the injured limb, in order to

draw

draw the limb outwards, and another band should be passed around the pelvis & fastened to a staple in the wall on the opposite side. When luxated downward & forward, the patient should be placed upon the sound side, a band should be put over the pelvis, & passed through two holes in the table, one just before, the other just behind the patient & fastened to a staple in the floor immediately under the table. A rolling pin is to be put under the injured limb while extension & counter extension is going on, two assistants one hold of each end of the pin, should pull immediately upwards: in this way I have sometimes succeeded in reducing this luxation.

It is sometimes necessary to bleed ad deliquium animi, & then the bones may be easily replaced.

Contusions of the Hip sometimes resembles luxations by the bone. In contusions of the hip, the limb is sometimes shortened from the pelvis being drawn upward. It is therefore necessary to examine the pelvis, before pronouncing it to be a luxation: for it may be only a severe contusion of the hip

Luxation

Luxation at the Knee Joint.

It is a very uncommon luxation I have seen but few instances myself. It cannot be luxated forward, - when luxated backward, the condyles may be felt, and the pulley like surface of the os Femoris will be felt in the place of the patella. It is easy reduced by making extension and counter extension. After it is reduced a roller wet with a solution of saccharum saturni should be applied moddling tight from the ancle to the thigh, then the long splint of Desault, should be applied, & the limb fastened to it by a bandage. -

Luxation of the Patella.

It may be luxated either over the external or internal condyles. The luxation over the internal condyle is very rare. It arises from some mechanical force immediately upon it. When luxated the patient is unable to straighten or move the leg. It is easily reduced by straightening the leg at the knee, and bending it upon the pelvis. by doing so the muscles are relaxed, & it may be easily pushed into its place. ——

Luxation

+ In Women during or near the time of menstruation, cold water would be a hazardous remedy, in this case cloths wetted with Cool Vinegar or Brandy and water should be substituted ~~—~~

Luxation of the Ancle Joint.

It may be luxated either forwards or laterally.- when luxated laterally the fibula is generally broken. When luxated forward it is easy reduced by an assistant taking hold of the leg, and the surgeon taking hold of the foot and heel, pulls it outwards and upwards.

Sometimes the astragalus is luxated along with the bones of the leg. In general amputation is performed when this is the case but I think if the bones are put in their natural position again there is no necessity for amputating. A sprain of the ancle is sometimes mistaken for a luxation It is distinguished from a luxation by the joint being able to form its motion. When sprained, cold water should be applied immediately, and afterwards vinegar and water and by all means rest; and a splint may be used.

For a more particular account of the fractures and luxations of the different parts, I refer you to the works of ~~Boerhaave~~ Boyer and Desault.

Pf

Of Injuries done to the Head.

I. Of the Scalp. When the scalp has received a severe blow from an obtuse body, an effusion of blood takes place and a tu-
-mour is formed, which is circumscribed all round with hard edges; it feels soft and fappy: and to an unexperienced practitioner it seems as if the bone was depressed: and he would be for making an incision down to the bone, and using the Trephine. I men-
-tion this circumstance to you in order to caution you against forming such an opin-
-ion: - Unless the patient have symptoms of compression of the Brain no incision should be made. Mr. Pott recommends a solution of Sal ammoniac to the contused parts: but I believe the best and most proper application is cold water or vinegar applied to the head: by wetting cloths in it and laying upon the head: and request the patient to live upon a low diet in order to prevent Inflammation. Where the effu-
-sed blood is not absorbed, and it remains a long while a puncture should be made into the tumour and the effused blood let out: the wound should then be healed by the use of the adhesive plaister.

The

The scalp is sometimes injured by means of some sharp substances striking against it, forming what is called an incised wound. When such an accident happens it is to be treated in the same manner with incised wounds in any other part of the body. The hair should be first shaved away, the wound should next cleaned of dirt or any extraneous body by means of a piece of sponge and warm water, and the edges should then be approximated by the adhesive plaister, and kept so untill they become united.

In contused wounds of the scalp the best application is a bread and milk poultice moderately warm, applied over the whole of the contused portion; which should be continued untill inflammation has subsided; and the dead parts have sloughed off; the edges should then be approximated as near together as possible with adhesive plaister, which should be continued untill the wound heals.

Sometimes the scalp is torn off from the bone, and falls down upon the sound parts; and forms what is called a flap.

The ancient Surgeons advised the cutting away of this flap. This ~~Medicine~~ is a

very

* The parts will be put upon the stretch, a free circulation through them will be prevented and they will slough —

+ or what is better a Compress of tow —

+ It should be removed as soon as it is discovered to be loose.

very improper method. It not only deprives the head of its natural covering, but it also leaves a very large scar, and it is much longer in healing than if it was left. Mr. Pott recommends a method which is far preferable, and which I always have found to answer the purpose very effectually. It is as follows. After shaving away the hair the flap should be cleared from dirt, by means of a sponge and warm water it is then to be placed in its natural situation as far as possible, taking care not to put the edges too close together: for if inflammation and tumefaction take place ~~the edges will be irritated by friction against each other~~. The edges are to be kept in this situation either by adhesive plaister or by suture. I prefer the former. If abscesses should form under this flap, they may be opened, and treated as a common abscess; they will be found to heal without much difficulty. If a piece of bone exfoliates it may also be removed. Even though the Pericranium should be torn off along with the other integuments: ~~the above~~ method should be used: and it will in general be found successful.

In some instances after wounds of the head, particularly punctured wounds, the inflammation which takes place, extends to the face, & appears sometimes like Erysipelas &

some

The meaning of this sentence is that doubts may arise whether the delirium — Pervigilium — and other symptoms arise from inflamation of the internal parts of the Brain and its membranes or the external parts the Scalp &c. The point may be decided by — thus by attending to the circumstance of the injured part — if it present much inflamation but little fear need be entertained as to the state of the Brain — Two sides of a cavity never inflame at the same time

sometimes Phlegmonous: which oftentime causes considerable fever, and very often is followed by delirium. This may in general be prevented by dilating the wound with a scalpell: if this does not succeed and the inflammation be very violent: the antiphlo-gistic regimen must be used, such as copious bleeding, copious purging, low diet, rest &c. these remedies most commonly cure: but if they should also fail, I have found that shaving the hair off of the head, and applying a blister over the inflamed part a very effectual remedy. There are some doubts among Physicians whether delirium arises from the external parts being inflam-ed or from the internal? I believe this may in general be known from the appear-ance of the contusion externally, whether it proceeds from it or not.

There is a disease which some-times arises from a wound or contusion of the scalp, sometime after it has to all ap-pearances healed up. I mean a severe pain in the part, which generally continues a long while, & is very distressing to the patient. Upon examining the part there will be no appearance of disease: there is no swelling & the skin appears of its natural colour: but the patient complains of violent pain in the part. I have seen several cases of this kind, two of

which

~~It may occur without any of the above symptoms. Should such cases~~

which were effectually cured by making an crucial incision through the pained part down to the bone: the others received no benefit from this operation. I will relate a case which was cured by the above remedy.

A young Lady leaning out of a Window received a severe blow upon the head about the middle of the left parietal bone, by the window shutter suddenly flying too, which contused the scalp very much: the common remedies were applied to it: and it healed up; after a short time she began to complain of violent pain in the part that had been contused: many remedies were used for it but none of them had any effect. About four months after the accident I was sent for in consultation: on examining the part I found no swelling nor any appearance of disease, I proposed to her to make a crucial incision thro' the soft parts; which she very readily consented to. I immediately performed the operation and as soon as the smart from the cut subsided, she said the pain had left her, and it never returned afterwards.

In another Lady who received a similar contusion I was sent for immediately after the accident. I ordered bleeding, purges low diet, to be used: after some time she also complained of violent pain in the part which had received the blow. leeches were then applied to it but without any effect: I then proposed making an incision through the parts

which

which she consented to. As soon as I per-
-formed the operation the pain left her: and she
continued free from pain for about a month,
when it returned again, and was more violent
than it ever had been. I then applied a caus-
-tic to the part in order to destroy it, which
was kept open for a long time, but it had
no effect, the pain still continued. Opium
blisters, and many other remedies were used
but all were ineffectual. I then advised
her to go into the country and stay some
time, thinking it might probably wear off:
She did so, and returned about twelve
weeks after very much alleviated from pain
and perfectly well, & still continues so.

In this case you see the operation had
no effect whatever in removing the pain

In another instance of a boy who
fell from a scaffold, and contused his head
about the middle of the parietal bone, I
performed the same operation; the pain
left him immediately; but it soon returned
again; much worse than it was at first, but
upon the opposite side of the head: I made
another incision upon that side of the head
and the pain left him, and never returned
afterwards. In this case the operation
proved very effectual:

In another instance I performed the
operation without producing any effect
whatever.

Of

+ & difficult respiration, pulse fluttering

It may occur without any of the above symptoms. I have seen such cases.

+ I have seen the bone depressed a little without producing any symptoms of compression.

II Of Compression of the Brain

In a compressed state of the brain the patient is effected with coma, stupidity, loss of sense and voluntary motion; and it is sometimes attended with nausea and vomiting: sometimes hemorrhage from the nose and ears: and in some instances convulsions.

Compression of the Brain may arise from a fracture of the Cranium by a piece of bone being driven in and pressing upon the dura mater: or from an effusion of blood or serum from ruptured vessels between the cranium and dura mater, or between the dura and pia mater or into the ventricles of the brain.

When it arises from a portion of the bone pressing upon the dura mater, coma stupidity, loss of sense and voluntary motion &c. come on immediately. When from an effusion of blood or serum it remains for hours and sometimes days before the symptoms of compression take place: because it requires some time before a sufficient quantity of blood is effused in order to produce compression.

I was sent for to see a boy some years ago, who had received a fracture of the Os Frontis, from a brickbat which had been thrown at him from across the street. I found him sitting up in his chair, perfectly sensible and he gave me an accurate account

of

of the manner in which he had received the injury and very soon afterwards fell down senseless & to all appearance dead. I found a portion of the bone depressed so as to press partially upon the dura mater: these symptoms however were not owing to depression from the piece of bone, but from an effusion of blood which flowing gradually did not take effect untill near fifteen minutes after the accident. I perforated the bone immediately: and found blood extravasated between the cranium and dura mater; as soon as it was all let out the boy returned to his senses, was considerably relieved, and in a short time got well.

If compression arises from fracture, a perforation should be made, and the depressed portion of bone elevated to its natural place or taken away entirely: which is to be done by means of a Trephine, or by a saw invented by Mr. Hey which is called by his name.

Mr. Abernethy says that in compression of the Brain from effusion when there is no contusion: it may be known where to perforate by attending to the following circumstances: if an incision is made down to the bone, & the pericranium be scraped off, if no blood flows it is the proper place, because the bone is dead there: but if hemorhage succeeds, the bone is not dead, & of course it is not the right place.

When compression of the Brain arises

from

from the effusion of blood or serum between the dura mater & pia mater. the following symptoms will be observed. After removing a portion of the bone, the dura mater will adhere a little to the piece which is taken away, and instead of remaining flat as it does naturally, it will become more convex and rise up into the hole, from whence the piece of bone had been taken: the rising and falling of the brain in inspiration and expiration will not be perceived: and the pulsation of the arteries of the dura mater cannot be seen. In this case the ancient surgeons advised the making an opening through the dura mater with a lancet; in order to let out the extravasated blood This method however seldom effected a cure. A great deal of danger arises from inflammation of the brain taking place. I have seen several instances of perforation of the dura mater, both from accident & by the surgeon. but death always followed. There are however some cases on record in which they have got well from a puncture of the dura mater, but it is a very rare thing.

In consequence of the great danger arising from puncturing the dura mater. I determined some time ago to try the effects of copious bleeding, purging, low diet &c. The first case that presented to me was in a boy whom I trepanned and found the effusion to be between the dura and pia mater. I immediately dressed the wound. &

did

did not puncture the dura mater: but bled him five times every day untill he fainted each time for several days, purged him freely, applied cold water to the head to lessen the extravasation, and afterwards applied a blister over the head: these remedies proved successful and the boy got well in a very short time. I have succeeded completely in this way, in several cases.

After trepanning, rest and low diet should be used, and if pain & delirium should succeed, bloodletting is to be used, also purges. —

Compression of the Brain resembles very much the symptoms of intoxication: In order to impress it more fully upon your minds, and in order to caution you against making such mistakes: I will relate a case which took place some years ago in Edinburgh.

A Hostler who was frequently in the habit of getting intoxicated, being out with his companions one day got very much intoxicated, towards evening he went home as usual in order to take care of his horses, but being so very drunk, he fell down in the stall underneath one of his horse's feet: and in falling hurt his head so much as to make it bleed considerable. One of his companions coming into the stable a short time afterwards and seeing him lying under the horse's feet went up to him, and found him senseless & motionless, and perceived blood running from his head: as the man was unable to give any

account

account of himself. it was supposed that the horse had kicked him, & fractured his skull; he was therefore immediately carried to the Infirmary: the surgeon was sent for; and came immediately, upon examining the patient he supposed him to be labouring under compression of the Brain, he therefore ordered the head to be shaved; and proceeded to perform the operation of trepanning. Having made an incision thro' the integuments down to the bone, no fracture was observed: as it was then growing late, and as no consultation had been made, the surgeon concluded to omit performing the operation untill a consultation was had the next morning. he accordingly ordered the house physician to send out notices to the other surgeons of the house requesting their attendance next morning in consultation. the patient was left in the care of one of the Nurse's of the House; who sit up with him the whole night: he continued senseless and stupid the whole night. the next morning he awoke and finding himself in a strange place; and upon putting his hand up to his head found that very sore, asked the nurse (who was sitting by him & watching him very attentively) what was the matter and where he was. "hold your tongue said she! they are going to trepan you in a hot time"!!!! This alarmed the poor fellow so that he got up, put his coat under his arm, and slipped out of the room; and made the best of his way home again to the astonishment of his nurse, and the great detriment of the Surgeon and his attendants.

This might have all been prevented if the Surgeon had paid attention to the breath of the patient, which would have smelt of the liquor, or to the liquid which was vomited up: in which the rum might have been seen or smelt.

III Of Inflammation of the Brain and its Appendages. —

When inflammation of the brain takes place from any external violence, it may be distinguished from compression of the brain by its symptoms not taking place untill sometime after inflammation has commenced. It sometimes remains for weeks and months, & I have known it to remain for twelve months before symptoms of compression were brought on.

The symptoms of compression are, restlessness want of sleep, a full and tense pulse, fever, nausea and vomiting, rigors, and towards the end convulsions. Inflammation of the Brain may arise from fracture or contusion of the head.

When it arises from contusion although the part has been well for some time, it will become tumefied again: a discharge takes place which after a while becomes a very thin sanies, and the bone is found to be dead: Upon cutting down to the bone it will be found entirely denudated of its pericranium: upon scraping the bone you will find it will not

bleed

bleed and is entirely dead: Upon perforating the bone the dura mater will be found inflamed, and perhaps pus is formed. If the abscess formed between the dura and pia mater, or in the substance of the brain, it should be opened: but if suppuration has taken place the patient seldom gets well.

In all contusions of the head, therefore, however slight they may be, the patient should be warned of the danger that may arise from inflammation taking place. If inflammation should take place bloodletting purges, and low diet, are to be used: if pain and headache a blister should be applied over the head: if these remedies fail and the symptoms still continue, it will then be necessary to perforate with a Trephine.

When a fracture of the cranium happens without depression: and if there be no symptoms of compression, Mr. Pott says a perforation ought to be made in every instance so that if inflammation should take place there is no danger of compression. I formerly followed this method of Mr. Pott's, but of late I have dissented from it entirely. When called to a fracture without any symptoms of compression of the Brain, I immediately dress it after the usual manner; and if any symptoms of compression should occur afterwards, the operation can then be performed. It very fre-

-quently

quently happens that it heals up without any of the symptoms of compression. I would therefore recommend this practice to you in preference to that of Mr. Pott.

A Concussion or commotion of the Brain sometimes causes compression.

In describing the symptoms from concussion Mr. Pott observes that they are very much like those from extravasation: sometimes the patient becomes very delirious.

Mr. Ottemethy divides the symptoms into three stages. The first is that stage which happens immediately after the accident; the patient is in a comatose state, insensible and the extremities are cold - this does not continue long before the second stage comes on, the patient becomes sensible, feels his hurt, and will answer questions properly, respiration is less difficult and the extremities become warm. - in the third place inflammation takes place with all its symptoms.

In the first stage little can be done, as soon as the patient can swallow, it is common to give him stimulating medicines: this however is very injurious, and should be avoided: cold water should be first applied when the pulse rises bloodletting should be used, and a blister over the head: and according as the pulse rises, so make use of the Lancet: purges and low diet are also to be used if these fail and the patient still continues in a comatose state: mercury should be given untill a

salivation

salivation is effected. this I have found a successful remedy when all the others have failed.

Whenever therefore a patient labours under Compression of the Brain, from any of the beforementioned causes, or whenever suppuration takes place internally: if it is not relieved by any of the remedies which have been mentioned it then becomes necessary to perform the operation called Trepanning.

The object of trepanning is to elevate the depressed piece of bone, or if there be no depression to let out the effused blood, or to make a free opening for the pus which has collected between the Cranium & dura mater to escape.

The Ancients supposed it to be improper and unsafe to trepan over the Sutures, because they were afraid of opening the longitudinal and lateral sinuses.

Modern experience however proves that it may be done in any of those places without any inconvenience. I once saw the longitudinal sinus opened, the hemorrhage was not great; and by putting a dossil of lint into it, the hemorrhage was completely stopped.

I have also seen a portion of the temporal bone taken out at the lateral sinus, without any bad consequences arising from it. It may also be done at the frontal sinus: & I think it might be applied upon any part of the bone.

I am next to mention the method of

performing

performing the operation.

Having provided yourself with needles, ligatures, tenaculum, sponges, a bason of warm water, & the trepanning instruments, which are 1. A strong and large scalpel with a piece of steel passing along the back of it and projecting beyond the handle; which answers the purpose of scraping away the pericranium after the incision has been made: instead of a raspatory which the older surgeons made use of.

2. A Cylindrical Trephine with a moveable center pin in it: which moves up and down in the hollow of the handle of the Trephine: & is fastened by turning a screw upon the handle. This answers much better than the perforator and conical trephine made use of by the old surgeons. 3. An Elevator, or simple lever. The ancients made use of a pair of forceps, and an instrument called a lenticular: but the elevator answers all the purposes, that the other two instruments do. 4. A common pick-tooth to feel the depth of the Groove made by the Trephine; and a brush or towel to clean the teeth of the Trephine. 5 & Lastly, the dressings which are to be applied after the operation, of which I shall speak hereafter. —

The above preparations being made and the patient placed in a proper position, the operation is to be performed in the following manner. The hair is first to be shaved off of the head, an incision is next to be made with the scalpell down to the bone,

and

and the pericranium scraped away with the piece of steel at the end of the handle of the scal-pell: the trephine is then to be applied (with the center-pin projecting beyond the teeth of the trephine, so as to perforate the bone first in order to make a fixed point upon which the trephine may move) with the center pin upon a sound part of the bone; and begin to saw gradu-ally, after sawing a short time and having made a groove sufficient to prevent the teeth of the saw from flying out of it & wounding any other parts, it should be taken out and the centerpin pushed within the teeth of the trephine to prevent it from wounding the dura mater, before the saw gets through: the toothpick should also be used to see whether the groove is of an equal depth all round, & to clear out the saw dust from it: having cleared the teeth of the trephine with the brush or towel it is to be put into the groove again & the sawing continued: after you have got nearly through the bone the trephine should be removed very often & the groove examined with the toothpick to see whether it is through at any place, for great care should be taken not to wound the dura mater: the elevator should also be frequently used tow-ards to the last, to see whether it is loose: for I think it is better not to saw entirely through the vitreous table, but to break it with the lever which may in general be easily done; and there is then no danger of wounding the dura mater: if any spicula of

bone

bone remain, they may be removed with the elevator. - if a piece of bone is depressed, it is next to be raised or taken away by means of the elevator: or if it be from pus it is to be treated according to the directions beforemen-
-tioned: the wound is then to be dressed. It is most commonly recommended by writers to apply dry lint to the parts, but this is very injurious: because the blood which oozes from the wound wets the lint, which when it becomes dry sticks very much: and if it is found ne-
-cessary to examine the wound afterwards it will be found almost impossible to get it off. The application which I make use of & which I find to be an excellent one is a soft bread and milk poultice moderately warm, & not too heavy applied over the whole surface this keeps the parts soft & warm, & if necessary to open it afterwards, it can be removed with-
-out any trouble or difficulty.

Where there is no effusion of blood & if after raising the depressed piece of bone, the symptoms of the patient are relieved: the healing of the wound will be very much expedited by bringing their edges together, by which means adhesions very soon takes place.

But if there be effusion of blood, serum or pus, a piece of lint spread with some mild ointment on both sides should be laid over the perforation, and the scalp laid upon it in order to prevent adhesion: so that it may be opened as often as necessary without any in-
-convenience. In this case it sometimes requires to be removed several times in the day.

After.

After the operation is over it is necessary to pay great attention to the patient: he should be kept on a very low diet, no kind of animal food, nor spirituous liquors should be given him, he should be kept in a dark room: and if fever comes on with inflammation bleeding copiously and purges are to be used, when these have failed I have frequently applied a blister with very great advantage: repeated blistering has been used with very good success.

Of Diseases of the Eyes.

I. Of Inflammation.

Inflammation of the eyes may be situated either in the tunica conjunctiva, the eyelids, or glands. It sometimes arises from mechanical violence done to the eyes, but very frequently no cause can be ascribed to it. When it is situated in the tunica conjunctiva or in the eyelids, the pain is very violent. The symptoms attending an inflammation of the eyelids are, the skin becomes a scarlet colour, the patient feels a burning pain: and when the edges become inflamed suppuration & ulceration frequently follows: the edges of the eyelids are glued

together

together so that the patient is unable to open them in the morning, untill he has washed them.

When the edges are inflamed the general opinion is that the ducts of the Glandula Meibomian are the seat of the disease. but I am of opinion that is arises from the roots of the hairs, that it resembles very much tinea capitis: impressed with this belief. I generally make use of the same remedies for it as in tinea capitis. such as the unguentum citrinum or mercurial ointment inserted between the eyelids morning & evening.

I have lately found the Tar Ointment a very good remedy, it should be inserted between the eyelids just at going to bed: where it does not yield to these remedies I have succeeded in curing it by pulling out the hairs with a pair of small forceps. If the inflammation of the eyelids be very violent, blood should be drawn from the arm: but the best remedies for the inflammation are purges and low diet.

When the tunica conjunctiva is inflamed, that part which is naturally white becomes red, in consequence of the serous vessels carrying red blood: the eye waters, light is offensive, a burning pain, which sometimes effects the head, and the eye feels as if something was in it. The inflammation often spreads over the cornea, and if not very soon relieved causes it to become opaque. Its remote causes are 1. mechanical violence by wounds or by pieces of iron or grains of sand getting into it. 2. Acrid substances. 3. Too much exercise. 4. Too strong light. 5 Spirituous liquours.

6. venereal disease, small pox, measles &c.
7. Sometimes without being able to assign any occasional cause.

Inflammation is sometimes situated within the globe, either before the crystalline lens or in the posterior chamber. This inflammation is attended with a shooting pain, light offensive, and when in the anterior chamber suppuration often takes place & the pus can be seen through the cornea: when in the posterior chamber fever takes place delirium, & frequently death.

When the cilia turn inwards & rub the eyeball so as to cause Inflammation it is called Trichiasis: this is to be cured only by pulling out the hairs.

In the cure of the different inflammations of the Eyes, the first thing to be done is to remove the exciting causes; the remote causes are also to be avoided. If in the cornea, it should be extracted with a lancet, tooth pick or small forceps: if under the eyelids a wet cloth should be passed under it and round the eyeball in order to wipe it out. injections of milk and water; & if these do not succeed the eyelid should be inverted and examined. The principal remedy on which we are to depend in the cure of inflammation is bleeding: other remedies are to be used with it as cups, scarifications, leeches thirty or forty of them round the eye: and if the inflammation continue the vessels of the tunica adnata should be divided with the shoulder of a

lancet

I have made use of a piece of lung applied in a bag to the Eye, & found it to answer extremely well

lancet, or with a pair of ~~siffars~~. Purging should also be administered with bleeding (I prefer the mercurial cathartics) a soft bread & milk poultice to the eye, not too heavy & but moderately warm, this however is very often apt to keep the eye too hot. the pith of sassafras diluted in water. if these fail I have found a blister applied immediately over the Eye an excellent remedy; the eye should be first closed, a piece of gauze put on it & the blister over the gauze: sometimes a blister to the side of the eye, behind the ear, or back of the neck proves effectual. — a very good wash is made for the eye by putting Sac: Saturni grs v. Sulph: Zinci grs iij Tinct: Opii ℥ss into four ounces of water, a few drops of which is to be dropped into the eye occasionally. When these have failed I have used the Aqua picis with very good success.

Even when the suppuration takes place in the anterior chamber the antiphlogistic regimen frequently cures it: but if it should fail and the pus is likely to ulcerate the cornea & brake out: it is better to make an incision through the cornea in the same manner as in ~~opening~~ for cataract

When deep seated the antiphlogistic regimen should be continued unremittingly; bleeding should be used without any regard to the pulse: animal food and spirituous liquors are to be abstained from, & the patient confined to a dark room and low diet.

The disease called Unguis arises from a thickening of the coats of the eye. It should be raised by a hook or tenaculum, & cut with a pair

of

of scissors, and dissected with a sharp scalpell from off the cornea.

Inflammation sometimes produces opacity of the cornea: many remedies have been used for it: but I believe most ~~often~~ do harm.

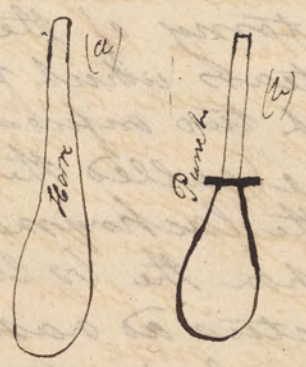
II. Of Fistula Lachrymalis.

It is impossible to be acquainted with the nature of this disease without a knowledge of the Anatomy of the Eye and its appendages. The tears which flow through the eyelids pass through two orifices at the internal canthus of the eye (called the puncta lachrymalia) down to the lachrymal sac, which is situated in a groove upon the Os Unguis, from ~~thence~~ through the ductus ad nasem which passes out behind the inferior turbinated bone. This ductus ad nasem from inflammation & from other causes, like other passages frequently becomes stopped, & the tears are prevented from flowing through it: when this is the case it forms the disease called <u>fistula lachrymalis</u>.

Inflammation sometimes takes place in the lachrymal sac, which is attended with considerable fever and pain. and frequently suppuration & ulceration takes place: this may sometimes be pre-

-vented-

The incision should be begun just above the tendon of the obliquus inferior muscle is inserted & extended along the edge of the Orbit.



prevented by bleeding purges and low diet.

When suppuration commences in the lacrymal sac along with obstruction of the duct: an opening should be made into it with a lancet, & a small tin probe or bougie should be passed thro' the ductus ad nasem: which should be repeated every day untill the stricture is removed. As soon as the stricture is removed the external orifice will soon heal up by the bringing edges into contact with adhesive plaister.

Sometimes the ductus ad nasem, becomes so impervious that nothing can be passed through it: it is then necessary to make an artificiale opening: This is to done as follows. As the lachrymal sac lies in a groove made by the os Unguis: it is only necessary to make a hole through the Unguis: this is to be performed according to the method recommended by Mr. Hunter. A flat piece of horn[a] is to be passed up the nose, then an instrument in the shape of a punch[b] with its edge very sharp is to be applied upon the os Unguis, (first making an incision down to the Bone with a lancet or scalpell) which is to be pressed against the horn untill it cuts through the bone: the external wound may be immediately healed up with adhesive plaister. Mr. Pott made use of the stillette of a small trocar for puncturing the os Unguis: this only breaks through the bone, & leaves the pieces: which very frequently grew together again: the punch is therefore far

(a)

far preferable, it does not break the bone but cuts out a round piece of it: so that it can never afterwards grow together.

In obstructions only of the ductus ad nasem, an opening should be made into the lachrymal sac with a scalpell, & then a small probe should be forced down through the duct into the nose: then a silver instrument[a] with a small head to it, (invented by Mr Ware,) should be passed into it, and kept there untill the stricture ceases: it may then be removed & the external orifice healed up.

Sometimes this disease is attended with a caries of the bone, when this happens the bone should be extracted, & then be treated as above.

III Of Cataract.

By this term is meant an opacity of the crystalline lens or its capsule by which they are unfit for transmitting the rays of light to the bottom of the eye: hence vision is obstructed. Its first appearance is a small speck of a whitish colour, which appears just behind

the

Blacksmiths are subject to it by their working in a strong light

the cornea, which gradually increases untill the whole crystalline lens or its capsule or both, become opaque. It often occurs without any evident cause; sometimes it is the effect of some mechanical injury. I have known it to follow a bruise of the Eye. and once a puncture of the Eye.

A variety of remedies have been used to disperse this opacity; of which Mercury stands at the head, aided by blisters, ipecac, cups, scarifications & leeches. but I wish I could say that they had ever made a complete cure. As medicines are generally unsuccessful, we are obliged to remove the cataract, by an operation: of which there are two methods one is called couching the other extraction.

The first is the most ancient method, which is done by making puncture through the sclerotic coat: and depressing the cataract to the bottom of the Eye. The other is performed by making an incision through the cornea, rupturing the capsule of the crystalline lens, then by moderate pressure upon the ball of the eye, the cataract is taken out entirely.

Both of these methods have been advocated by Surgeons of great eminence I believe however the latter is now generally preferred, at least I think it much preferable.

There

There are many reasons in favour of extraction it is less painful than couching: the cataract when once taken out can never afterwards obstruct vision: this is not the case when de-pressed, it very often rises from its depressed state, & obstructs vision; so that it is necessary to perform the operation again: it is said by some surgeons that the cataract when de-pressed is always absorbed: this is not true it frequently is not, & lies loose, or floats in the vitreous humour, so that when the patient stoops down it comes forward & obstructs his sight, & returns back again when he is erect.

Another objection against couching is that if the cataract be fluid it cannot be depressed, or if the capsule be opaque it cannot be depressed without injuring the iris: whereas in extraction both of these may be removed without any difficulty.

When the capsule adheres to the iris it can-not be separated by couching without wound-ing the iris: but by the incision which is made through the cornea, in extraction, it may be very easily separated. Another objection is that after couching the patient frequently becomes sick and vomits, which is very injurious.

The objections made against ex-traction is altogether owing to awkardness in the surgeon. It has been said that in extraction, the section of cornea when cica-trized leaves a scar, which makes it opaque

and

and obstructs vision: this is altogether owing to the awkardness of the operator: for if it be made with a sharp knife, and with one cut of the knife, I have seen it heal without leaving a scar perceptible. Another objection to it is that in forcing the cataract through the pupil, it stretches it so that it becomes oval and will not return to its natural state: this does not always happen; even if it should vision is not obstructed by it: the patient can see as well with an oval as a round pupil.

It is also said that the iris is often wounded by the knife: this is owing to the surgeon not being acquainted with the manner of operating: for if he desists at the moment he sees the iris floating before the point of the knife, (which may be very easily seen) then with the hand that it is at liberty if he rubs the cornea untill it disappears, which it will very soon do; the operation may then be performed without any difficulty.

Another objection against extraction and which is the most plausible one is that in forcing the crystalline lens out, some of the vitreous humour will flap out, if great care be not taken to prevent it: this has actually happened: but it is altogether from awkardness in the Surgeon.

For the above reasons I prefer extraction to couching. But of six cases which I have depressed I succeeded effectually in

curing

if it ~~certain~~ only it is
probable the state's name is plaintiff

curing but one only. Whereas if I had extracted them, I think from the number I have extracted which have proved effectual, I should have cured five out of the six.

Before attempting the operation we should consider whether it will be successful for it is frequently blended with other diseases of the Eye. It is necessary that the cataract should be the only complaint of the Eye. It is also desirable that the eyelids should be free from inflammation and edema. It should not be performed if there is pain in the head; for it has been found to increase the pain. The pain should be first removed by a course of purging. It is desirable that the pupil should more freely enlarge contract in a strong light: a free motion of the pupil however is not always a certain sign of the sensibility of the retina to light. It is necessary to know before operating whether the patient is subject to a cough or sneezing if so the operation should be delayed. Before performing the operation the patient should live upon a low diet, purging, and bleeding if of a full plethoric habit. The spring and fall for the best time for performing the operation.

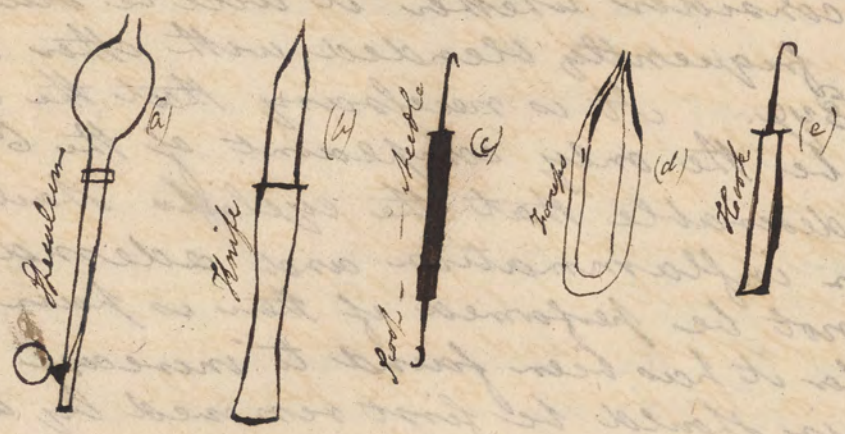
The day before the operation the patient should take a cathartic. I am next to mention the manner of performing the operation. I shall first mention the different which have been used & are in use.

the patient

With

1 Be on with a ring or to the

vest,



With a view of steadying the Eye different specula are used: they are however not necessary in extraction: in couching they are of great service: next a knife (b) (invented by Baron Wentzell) the broadest part of the blade should be rather more than half the diameter of the cornea: one of the edges of the knife is very sharp from the handle to the point, the other edge is very sharp about one ~~tenth~~ of an inch, which makes the knife have a perfect point: it should be very sharp and well polished: and should increase in thickness from the point to the handle: in order that it may act as a wedge to prevent the humours from escaping: next a curved needle (c) with a handle to it, to rupture the capsule of the crystalline lens; in the other end of the handle a little scoop is fixed; which is used to remove any fragments that remains after extracting the lens: next a pair of forceps (d) to remove the capsule when it is opaque: a pair of scissors, & last of all a small hook (e) fixed in a handle: this is necessary when the cataract is loose & falls to the bottom of the eye, it ought be passed in through the iris & pushed into the cataract; and draw it gently out.

Of the Manner of performing the Operation.

The patient should be seated obliquely to the light of a window; on a low seat: the eyes

are

eyes should then be covered by two compresses which are fastened to a bandage ~~that~~ passes round the head; the eye which is to be operated upon should then be uncovered: the other is to be kept covered: the surgeon should then seat himself upon a higher seat than the patient, & immediately before him, with a stool to rest ~~upon~~ his foot upon. An assistant should stand behind the patient to steady his head and keep up the upper eyelid, while the Surgeon with two fingers of his left hand keeps down the under eyelid. After opening the eyelids, the eyeball will move in every direction, for a short time, but it soon stops, and as soon as it does, the knife should be applied upon the cornea about 1/2 of an inch from the sclerotic coat, and pass it very carefully through the cornea, untill the section is made. As soon as the section is made the eye should be shut for a little while: the eyelids are then to be secured again: and the capsule of the crystalline lens to be ruptured: this is to be done with the curved needle, which is to be introduced into the eye through the section of the cornea, and the capsule punctured and lacerated with it as much as possible: then by moderate pressure upon the ball of the eye, the cataract will be pressed out thro' the iris, and the section of the cornea: but great care should be taken not to press too hard upon the ball of the Eye, or some of the

the vitreous humour, will be pressed out along with the crystalline lens. In order to guard against this I generally pass a hook (made for that purpose) or the curved needle in through the section of the cornea, & push it into the crystalline lens, and then draw it out very gently: by doing it in this way there is no danger of any of the vitreous humour escaping. — If any fragments remain after extracting the lens, by rubbing the cornea they will appear, and they may then be taken out with the scoop. If after extracting the crystalline lens the white spot still appears behind the cornea, it is owing to the capsule of the crystalline lens being opaque: which is to be brought out by introducing the forceps & pulling it out: if it be very tender it will come by piece meal only, it will therefore be necessary to introduce the forceps very often, but you should avoid introducing them too often.

After the operation a compress should be put over the eye, and a bandage passed round it, and the eye kept completely covered: the patient should then be placed in bed upon his back: and for fear of his rubbing the eye when he wakes from sleep (which we are very apt to do) I generally put

a

a piece of tape round each wrist and tie them fast to the bedstead, so that the patient can get his hands no farther than his Chin. he should be kept very still & quiet & upon a low diet. —

There is another disease that sometimes requires an operation (viz) that of making an artificial pupil. In performing this operation the the patient, surgeon & assistant are to be placed in the same manner as above, the knife is to be pushed into the cornea at the same place, after it has passed about half way through the point of it should be depressed & pushed into the iris, and make a half section of that, then it is to be pushed through the cornea untill the section of it is completed: a curved pair of scissors, or a pair of forceps constructed for the purpose is to be passed in under the section of the cornea, and the flap made by the section of the iris, to be cut off: and removed: the opening left will be sufficient, & constitutes the artificial pupil. Sometimes the tension of the iris is so great, that a small incision made through it causes it to contract so much as to make a sufficient opening: I have had several cases of this kind, & by making an incision I have succeeded completely: the iris contracted so as to make the opening sufficiently large.

I

+ Withwingon t

I am next to say something respecting the instruments made use of in couching, & the manner of performing the operation.

A speculum for steadying the eye, and a needle: the needle used by the ancients, was a spear pointed one: but Mr. Hey finding this a very inconvenient one constructed one of his own: which is round & has a flat sharp point, & perfectly straight this he says answered his purpose, and it is used by most of the surgeons now: but I prefer the one invented by Mr Scarpa which is similar to Mr Hey's except that instead of being perfectly straight, it is a little curved: by being a little curved the crystalline lens can be much easier dislodged from its situation, & depressed to the bottom of the Eye.

In performing the operation the patient & surgeon are to be seated in the same manner as in extraction; after fixing the speculum upon the eye, the needle should be pushed in through the sclerotic coat, about 1/10 of an inch behind the cornea; it should then be passed with the convex side towards the cornea before the crystalline lens: then the handle should be elevated & the lens depressed to the bottom of the Eye: the eye should then be closed and

the

+ Inguinal or Bubonocele when it passes into ~~the~~ ~~certain~~ groin + or Oschocele

the patient treated in the same manner as after extraction. -

Of Hernia.

By hernia is meant a protrusion of certain parts which ought naturally to be contained in the Abdomen.

The place of protrusion is generally either at the navel, the abdominal ring, or under the tendon of the oblique muscles, at what is called Pouparts ligament. When the intestine protrudes at the navel it is called Umbilical hernia or Exomphalos: if it protrudes through the abdominal ring into the scrotum it is called ~~scrotal~~ hernia: if under Poupart's ligament it is called ~~inguinal or~~ femoral or crural hernia, or ~~bubonocele~~. If the rupture contains the omentum only it is called Epiplocele: if omentum and intestine are both contained in it is called Enterо Epiplocele. &c.

There is another species of hernia called congenital hernia, which takes place in infancy. It arises from the sac which is made by the peritoneum, round the

testis

testis after it descends into the scrotum, called tunica vaginalis testis, not closing up, as it generally does; an opening is therefore left between the abdomen & scrotum & when the child cries, strains or coughs, the intestine is protruded through into the scrotum and forms the tumour called congenital hernia. Which if care be not taken to prevent its descent, becomes very large; and if strangulation takes place is attended with fatal consequences.

Of Inguinal Hernia. This commences by a tumour near the abdominal ring which disappears when the patient is in an horizontal position, and returns when erect, as it increases in size; it gets lower down and sometimes gets so large that the patient is obliged to have it suspended in a sling round the neck. It passes into the Scrotum in men, and into the labia pudendi of women. Hernia is known by its growing downwards, by its disappearing when the patient is in an horizontal position; & returns when the patient is standing is increased by coughing, straining &c. and if strangulation takes place costiveness, nausea, vomiting, and sometimes death follows.

Hernia is very apt to be mistaken for hydrocele, venereal bubo, or swelled testicle: but it may be easily distinguished from

It is diaphanous

Cysts upon the funiculus and resembled very much the varicose state of the veins of the funiculus and — also removable

All the abdominal viscera excepting the duodenum and pancreas, have been found at one time or other in the hernial sac.

from them. In hydrocele if a candle be placed behind, the light may be seen through it: the fluctuation of the water may be also felt: neither of which can be observed in hernia. In venereal Bubo, the swelling always remains the same, and it feels hard; hernia feels soft; and is increased in size by coughing. In swelled testicle you can feel the spermatic cord very easily, of its natural size and it has also a flattened appearance on the sides, which is not the case in hernia.

The causes of hernia are various; it may arise from debility, from violent blows upon the abdomen, violent coughing, straining, jumping, running, lifting heavy weights and some other causes.

Of the Treatment of Hernia.

As long as a piece of intestine remains down, there is danger of strangulation. After it has been down frequently, the abdominal ring becomes very large, so that the intestine slides down very easily, & can be returned without any difficulty: but for fear of strangulation whilst down, it should be returned as soon as it is discovered, and kept so by a compress placed upon the abdominal ring so as to press upon it & prevent the intestine from passing down: An instrument called a Truss, has been invented for this purpose; and is found to be an effectual remedy.

Before

Before the application of it, the patient should be placed in a horizontal position; with the knees a little bent in order to relax the abdominal muscles: the tumour is then to be pressed up (by what is called the taxis) the truss is then to be applied immediately over the abdominal ring: and secured by the straps which are connected to it: round the abdomen & thigh. After having applied the truss: the patient must avoid all the exciting causes, such as jumping, running lifting heavy weights &c. — costiveness should also be particularly avoided. — When the truss is once applied it should be worn night and day, and at all times.

In young persons it sometimes is cured after wearing the truss for two or three years; but in old persons it seldom is cured and they are therefore obliged to wear the truss all their lives.

When the intestine has been down a long time, and becomes inflamed and cannot be returned: the patient should be kept at rest, in a horizontal position a very abstemious diet: and sometimes bloodletting & purges are necessary; after these remedies, the inflammation will have subsided, and it can be returned into the abdomen. If they continue down, and cannot be returned: it is owing to adhesions

forming

taking place between the intestines and sac. when this is the case it should be kept up as much as possible by a suspensory bandage.

Of Strangulated Hernia.

When a hernia becomes strangulated the parts which were soft before, become hard and tumefied: and is attended with antiperi-staltic motion of the intestines; nausea, vomi-ting: and the patient has no discharge. Per-dium. the stricture is sometimes so great as to impede the circulation: the parts then become swelled, inflame, and are very pain-ful. If the stricture be so great as to stop the circulation entirely; mortification very soon takes place; the tumour becomes of a dark colour; and the intestines black, if the patient be not very soon relieved death takes place.

The place of stricture is generally near the ring of the oblique muscle: some-times above the ring where the spermatic cord leaves the oblique muscle: or at the mouth of the hernial sac. —

Of the Treatment of Strangulated Hernia

As long as the protruded parts remain strangulated, there is danger of its causing death.

In order to remove the stricture the

patient

† It should be pressed upwards and outwards in the direction of the Spermatic Cord.

patient should be placed on a bed, with his buttocks raised, & the legs bent so as to relax the abdominal muscles, and then the tumour is to be grasped and pressed up: The degree of pressure should not be great because there is danger of injuring the intestine: this method of reducing it is called the taxis. If relief cannot be had in this way other remedies should be used such as bloodletting, purges, low diet, warm bath, the application of cold to the parts.

Bloodletting should be very copious nearly ad deliquium animi: during the deliquium the taxis should be repeated: and sometimes it proves successful.

Purges should be given of Cremor Tartar and Jalap in small doses. In very large and old hernias purges are very useful

Glysters are sometimes useful: tobacco glysters are sometimes very successful. either the smoke or the infusion may be given. One drachm of tobacco put into a pint of hot water, one half injected at once, and if it does not produce sickness and nausea in half an hour, it should be repeated. This injection is frequently more successful than any other remedy: but it sometimes fails.

Cold, is a very powerful remedy: ice is

the

the best; pounded ice put into a bladder, and applied to the part, has been found useful; if this cannot be done, or cannot be got, cold water with salt dissolved in it may be used: crude sal ammoniac and nitre dissolved in water and applied to the part for four or five hours if it does not succeed by that time, it will fail, and it may be removed. Opiates are very useful in preventing sickness: An adult may take two grains of opium, and an injection of laudanum at the same time.

If the patient is not relieved by any of the above remedies, and the strangulation continues; the operation for dividing the stricture is to be performed.

I believe it is most proper to perform the operation as soon as it is found that the other remedies will not do. The operation may be performed although the patient is very weak, the countenance bad, and his extremities cold. A general coldness when attended with moisture generally proves fatal.

Of the manner of performing the Operation.

In the first place you should be provided with sponges and warm water, needles ligatures and tenaculum; the patient is then to be placed upon a table of a convenient height; the pubis being shaved, an incision is to be made with a scalpell, from the upper end of the tumour, and continued down nearly to the bottom of it: the incision at

the

† Where there is the least doubt of the intestine being mortified, the sac should be opened.

† Dr. The stricture sometimes exists just at the place where the spermatic cord enters the sheath formed by the folding of tendon of the Oblique Muscles. The stricture is to be removed by passing the finger up to it & along with it a blunt pointed bistoury. —

given,
in the
atives
found-
ranted
olomon
ad if it
d regis-
Whitley
gal repre-
tracts of
s in the
day of
ed and
se, the
ely con-

By the

Leg

I

Mr. Ay
Middlesex
sound —or
reading o
Mr. I
Joseph V
a certifi

the upper end of the tumor should be continued about half an inch above the abdominal ring; it should then be carefully dissected down to the tendon of the external oblique muscle and the abdominal ring & spermatic cord exposed to view: (If the stricture is made by the external oblique muscle (the tendon) a considerable indentation will be seen there;) If the stricture is at the abdominal ring: a hole is then to be scratched through the tendon just above the ring, and above the stricture: a director is then to be passed through it into the abdominal ring. Under the stricture the scalpell should then be passed along the director and the stricture cut through.

If this operation removes the stricture the intestine may be returned by the fascis without cutting into the herniae sac: but if it should not the sac must be opened.

In all recent cases the operation for dividing the stricture should be performed as soon as possible: but in cases of long standing, and where there is reason to suppose that gangrene has taken place the operation for dividing the stricture only should not be performed; but that of opening the sac should be done. Upon opening the sac it will be found that the stricture is at the mouth of the sac, or that adhesions has taken place between the intestines themselves, or between the intestines and sac: the adhesions are to be torn away & the intestine returned if not mortified: If the protruded

part

part be omentum, and if it has been down for a considerable time, it becomes a hard solid mass, is very different natural, & cannot easily be returned: this hard part may be cut off, & ligatures applied to the bleeding vessels, and the remainder may be returned into the abdomen.

"Whenever it is supposed that mortification has taken place: (which may be known by the patient ceasing to feel any pain & supposes he is getting better, the parts are dark coloured & the legs and arms cold;) the operation should be immediately performed by cutting through the sac: the contents of it should then be exam-ined very tenderly to see whether they are in a state of mortification: if they are of a dark colour, & the circulation is not stopt, they may be returned into the abdomen: if mortified, (which may be known by black spots ap-pearing about it, and a bad smell) the intes-tine should not be returned: if a small spot only be mortified it may be put within the abdominal ring & fastened there by a ligature: so that if any thing else is necessary to be done it may be got at very easily at any time: but if the whole circle of the intestine be mortified it should be cut off and the two sound edges brought together by four stitches: the first stitch should be through the mesentery: and the three others at equal distances round the intes-tine. it should then be returned into the ab-domen, and fastened by a ligature to the abdominal ring." This is the way which

M.

+ If this does not succeed the incision may be made between the two sides that adhere (as it was in one instance done in the Pennsylvania Hospital) & a communication between them will then be made.

Mr. Cooper, and some other authors recommend: But I prefer the following method. Instead of cutting off the mortified part of the Intestine: an opening should be made into it & its contents let out: and instead of putting into the cavity of the Abdomen let it remain as it is: taking care to remove all the stricture from it. After a while the intestine will gradually retract itself within the abdomen, the mortified parts will slough off: and the sound parts will become united. When the intestine forms adhesions to the abdominal ring so that the two ends cannot unite: it should be dissected away, and the edges brought together so that they may unite as it is retracted into the abdomen. +

If the omentum be mortified it should be cut off above the mortified parts the arteries should be tyed and the ligatures brought out at the wound. In order to ascertain whether the omentum be dead: make a cut into it: & if blood does not follow it is dead. The ancient practice of tying a string round the omentum and returning it into the Abdomen: is a very bad practice, & is generally attended with fatal consequences. –

After the operation, the wound must be healed as soon as possible. In order to do this the edges are to be brought together

together by sutures, (the adhesive plaister does not answer the purpose) the patient should continue in a recumbent posture; he should avoid straining when going to stool; demulcents should be given to allay the cough, if there be any: opium should not be given if it can be avoided, it causes costiveness which is injurious. In general a short time after the operation the patient has a stool: if he should not castor oil, salts, or senna are to be given untill stools are produced. If fever & inflammation should come on bloodletting purges and blisters are to be used.

Of Femoral Hernia. In this disease, the tumour is found upon the upper and forepart of the Thigh; it is most common in females. The protruded part descends underneath the aponeurotic expansion of the Thigh. It has been mistaken by Surgeons for Bubonocele; and in one instance for an enlarged Gland.

It may be known from bubonocele by your being able to feel Poupart's ligament above the tumour, which cannot be done in bubonocele.

In reducing the tumour it should be first pushed downwards, then inwards and upwards: by this method it may be very

easily

+ Mr. Cooper's method is to divide the structure ~~tran~~versely to the position of the fibres. That is a line with the umbilicus. This I think the most safe method —

returned, if it be not strangulated.

When strangulated it is generally at the edge near the symphesis pubis that the stricture is to be divided.

In order to perform the Operation the patient should be placed as before — the incision is then to be made down to the sac: the finger is then to passed up through the stricture; a blunt pointed bistoury is then to be passed up along side of the finger & the incision made near the Os pubis (for if made in any other way there is danger of cutting either the spermatic cord, the epigastric artery, or the femoral artery) the only danger in dividing it in this way is that sometimes the Obturator Artery is given off from the epigastric artery & runs down along the pubis so that there is danger of dividing it. This however seldom happens; and if a surgeon knows that this is sometimes the case; he may by taking care divide the stricture without injuring the artery, even though it should pass in that way: A very small incision is generally sufficient to remove the stricture. I once divided the stricture myself without wounding the artery I could feel the pulsations of it very distinctly with my finger. After the stricture is cut the tumour should be returned; if it cannot the sac must be opened, & if any adhesions then must be divided, & the contents can then be returned into the abdomen.

When

When it occurs in females there is not so much danger attending the division of the stricture: there being no Spermatic cord, the operation can be performed with much greater safety.

Of Exomphalos or Umbilical Hernia.

When the contents of the abdomen protrude at the navel, & form a tumor it is called umbilical hernia. It is most common in females. We are sometimes called to see it after it takes place in infancy: it sometimes happens that it gradually heals up and forms a spontaneous cure. When it does not it may be treated in two ways. 1. By compression. or. 2°. By a ligature. applied round the sac.

In order to make compression, an ivory button should be covered with a piece of linen the bowels are then to be returned, & the button placed immediately over the ring; a piece of adhesive plaister is to be put over the button, and in order to make them entirely secure a bandage is to be applied round the body over the whole. In this way it has been cured.

Mr. Desault recommends the use of a ligature: which he says should be applied in the following way. The contents are first to

be

be returned into the abdomen, a ligature should then be tied round the sac, (but not so ~~tight~~ as to prevent the circulation) only just ~~tight~~ enough to prevent the bowels from protruding again: in a day or two it will become inflamed: this generally subsides after a short time: another ligature is then to be applied, which is to be drawn so tight as to prevent the circulation: the parts will then slough off, and it will heal up, & form a complete cure.

The above methods succeed only in infants: in adults they always fail: an instrument however has been invented in London, which I find very effectual in keeping the protruded parts up: it is a truss open at the back part, in front is a circular hole in which is placed a pad or compress with a steel spring, which is placed immediately over the ring after the bowels are returned it is then tied behind by two strings: in this way if the steel spring be strong enough there is pressure sufficient to keep the bowels from protruding: & it sits very easy upon the patient, & can be constantly worn without any inconvenience.

When it becomes strangulated the same remedies are to be used as in Bubonocele: if these fail: the operation for dividing the stricture must be performed.

In performing the operation great care must be taken in dividing the sac not to

wound

wound the intestine. The best method I think of performing this operation is to dissect down along side of the canal, to the tendon, & along side of the recti muscles, the ring will then be exposed, & it will be very easy to scratch with the knife through the fibres of the ring untill the stricture is divided, the contents can then be returned without any difficulty. —

Of the varieties of the Hernial Sac.

The sac of hernia's frequently differ very much from each other we sometimes meet with several sacs one within the other. There are many cases on record in which the tumour was found to be contained in several sacs; one case in which there were six & another of four sacs, &c. —

Sometimes we meet with several strictures in the sac. Dr. Dorsey operated upon an Umbilical Hernia at the Alms House in which there seven strictures, all of which it was necessary to divide before the bowels could be returned into the Abdomen.

The hernial sac is sometimes very thick, in other cases very thin: the hernial sac has sometimes been found absorbed in umbilical hernia: and nothing but the skin enclosed the tumour; it has been so thin, that the peristaltic motion of the intestines has been seen through it.

Some surgeons doubt whether the hernial sac itself ever forms the stricture. I have myself

+ It arises from two causes - either from an increased secretion of the fluid which lubricates the sac, or from a diminished absorption.

myself seen one case in which the sac formed the stricture completely: therefore I know from experience that it does sometimes form the stricture. — For further particulars I refer you to Potts Works, Hey, Cooper, and Lawrence on Hernia ~~and~~ Lumbar at. —

Of Hydrocele.

A preternatural collection of water in the scrotum is called a hydrocele.

There are three kinds. 1. That in which the water is collected in the cellular substance, it is called anasarcous. 2. That in which it is collected in the tunica vaginalis testis, and is in contact with the testicle, & 3. Water collected in cysts upon the spermatic cord. —

The first is generally a symptom of universal anasarca: it is a smooth equal tumor, spreading over the whole scrotum (divided only by the septum of the raphe) the skin is of a natural colour, it has a doughy feel, and if the tumor be not too large, the spermatic cord may be felt, & it will be found to be of its natural size.

The second which is a collection of water in the tunica vaginalis testis; which commonly

increase

increases very gradually: but sometimes owing to a rupture of some lymphatic vessels; it increases very fast. it generally commences at the bottom of the sac next the testicle; and on one side only; it is soft to the touch; it is larger at the bottom than at the top; a fluctuation can sometimes be felt in it, and it is sometimes diaphanous. It is sometimes mistaken for hernia: it is however very easily distinguished from it: in hydrocele the tumour begins to grow at the bottom, it feels soft, & the spermatic cord may be felt to be of its natural size, which cannot be done in hernia

The third which is when the water is collected in cysts upon the spermatic cord may be known by the tumour as it increases in size gradually follows up the spermatic cord; and I once saw it pass through the abdominal ring.

There is no other injury arising from hydrocele, but the inconvenience which its weight and size makes, except that in warm weather it is apt to become excoriated.

Patients afflicted with this disease rather than suffer an operation, generally submit to the inconvenience which it occasions; and make use of a suspensory bandage, which relieves them from the weight of it.

Of

Of the cure of Hydrocele.

1. Of the Anasarcous. This is generally relieved by a suspensory bandage: but in general it is cured by making five or six punctures with a lancet, and the tumour: they heal very easily; dry linen should be frequently applied to the parts, in order to absorb the water.

2. Of the Tunica Vaginalis: little or nothing can be done in this disease by medicines. Dr. Shippen says he has cured by means of punctures, bleeding, and the use of Mercury. When recent I have succeeded in curing it by pouring a stream of cold water from a teapot upon it two or three times a day. It in general requires a surgical operation. It may be relieved either by pushing a small trocar through its anterior and inferior part or by puncturing it with a lancet (which I prefer) and immediately after puncturing a canula should be introduced: after the operation is performed, and all the water let out, the orifice should be covered with adhesive plaister; and a suspensory bandage should be applied. Before puncturing the tumour; the situation of the testis should be known, for great care is to be taken not to injure it:

The first method made use of by the old surgeons for the radical cure of hydrocele

was

† But the objection to this remedy is that some of the shreds of lint, sometimes remain in the cavity, & cause an abscess, after the parts have been completely healed up.

was making an incision, and introducing lint between the sac & testis, and letting it remain there untill granulations were thrown out & adhesion took place.

The next method recommended by them was the application of caustic; it was made into a paste, & applied in a line from one end to the other of the tumour, and suffered to remain there untill it burnt thro' the skin & sac. This method however was very soon laid aside.

The next was making an incision into the sac, & introducing a tent into it which was kept there untill suppuration took place: by this means granulations were thrown out, & adhesions took place. This did not answer the purpose, the adhesions are only partial.

Mr Pott recommends the introduction of a seton. The instrument he made use of in performing the operation was, a large seton needle fitted in a canula; the needle being armed with a skein of silk.

Another method which has been used is that of injections. Various stimulating injections have been used. The old surgeons made use of strong spirits of Wine, corrosive sublimate, &c. but being of so stimulating a nature they were found to be injurious, & were laid aside. This method has of late years been revived, instead of making use of such strong injections, wine is made use of, port wine is considered the best, diluted with

one

2 A bread & milk poultice should be applied during the inflammation.

& then applying a piece of lint over the edges — after suppuration com-
-mences a bread & milk poultice should be ap-
-plied.

one third of water, which has sometimes proved very successful: the inflammation produced by the irritation of the wine is not always sufficient, it sometimes returns again.

The most certain and effectual method is that of making an incision and introducing small pieces of dough between the sac & testis, after suppuration takes place the dough passes out with the pus, granulations are thrown out, adhesions take place and a radical cure is effected. This is however a very painful operation: but it is much better than the other methods, in the first place by making the incision we are enabled to ascertain whether the testis itself is sound, or scirhous, & whether there are cysts or not, which cannot be done when setons, caustics, or injections are used: & the disease never returns after this method has been used: & it is very apt to do it after the other methods have been used.

It is however I believe best in the first place to try whether the injection of wine will cure it. I am therefore next to speak of the manner of performing the operation.

Before proceeding to the operation, the patient should be seated in a chair, and having provided yourself with a small trocar & canula; and a small bladder (filled with the wine to be injected) with a very small pipe to it made to fit the canula of the trocar, & having a stopcock to it: the operation is to be done by

pushing

† Sometimes as soon as the wire is injected the patient experiences a good deal pain & sometimes faints: this however is but momentary & should not prevent the operation from going on

pushing the trocar and canula through the anterior and inferior part of the tumour the trocar is then to be withdrawn & the canula left in until all the water is evacuated, the pipe of the injecting bladder is then to be fitted in the canula, the stop cock is to be turned & the wire thrown into the sac, it should remain there at least five minutes or until the patient experiences a good deal of pain: it is then to be let out, & the canula removed. On the second day inflammation takes place & on the third it is at its height, after that it begins to subside & very soon gets well. A piece of adhesive plaister should be put over the wound, a suspensory bandage applied & the patient kept in an horizontal position. –

A bread and milk poultice is the best application

Of Calculus or Stone

Calculus concretions often form in different parts of the body. I once met with a calculus as large as a pea in the substance of the cranium. It sometimes arises from the sediment which is deposited during the retention of the Urine. Any solid substance getting into the cavity of the Bladder, forms a nucleus for it to collect upon. In order to prove this I here exhibit to you a stone which was taken from a horse, broken in half, and

in

Shewed a specimen of a stone which had formed upon a leaden bullet in the bladder of a soldier who had been wounded: & the ball lodged in the bladder, forming a nucleus for the stone.

in the centre of it you perceive a small sprig upon which it is formed. There is no doubt but the sprig was taken into the horse's stomach among his food, by accident: and that it formed nucleus for the calculus to collect upon.

The layers which form the calculus are often of different colours, sometimes, white, brown or of a greenish hue;

Calculi are most commonly found in the Organs of Urine. They are sometimes found in the pelvis of the kidneys, in the ureters, and in the bladder. I believe they most commonly form in the Kidney, and are afterwards washed by the urine into the bladder. When a patient has had violent pains in his back and loins for a considerable time, and then stops, if it suddenly returns again we may be sure it has fell into the Bladder.

When a patient is afflicted with calculi he will feel a hot burning pain in the part where the stone exists, a heavy obtuse pain in the back and loins, which when he stoops becomes very acute, coffee coloured urine, or bloody urine, costiveness flatulency, & a suppression of urine, or discharging it in small quantities.

If the stones are not too large they will sometimes be discharged when the urine is voided in large quantities. But if

387

if the stone be so large as not to pass then the patient will be afflicted with pain in the urethra, retchings, vomiting, suppression of urine, colic &c. When this is the case we should endeavour to remove it as soon as possible, by giving the patient some diu-retic medicines, and requesting him to let the bladder get completely filled before he attempts to discharge it: & then in as full a stream as possible: if that should fail an operation becomes necessary. —

When the stone is in the bladder the patient feels pain, itching, & heat in the part where it is situated: whilst he is discharging his urine it will sometimes stop very suddenly, owing to the stone falling upon the orifice of the urethra; a sense of pain is also felt all along the urethra, flatulency, restlessness, wakefulness, &c. and if the stone be not soon extracted death soon follows.

Sometimes calculi remain for a great while in the bladder, without producing any pain, or any symptoms whatever of its existing there.

Ulcers in the bladder sometimes sometimes occasion symptoms very much like those of the stone: Also, hemorrhoidal tumours sometimes occasion such symptoms: great care should be taken not to

mistake

mistake these diseases for the Stone.

When small pieces of calculi are discharged from the urethra, there is no doubt but a stone exists in the bladder. the most certain method of determining this is by introducing an instrument called a Sound through the urethra into the Bladder. it is called Sounding.

In passing the sound it should be introduced into the urethra, with its con-cave side next the abdomen; in general it passes very easily in this way; but if it should fail, it must be introduced with the concave side next the perineum untill it gets to the membranous part of the urethra, it should then be turned round (by making it revolve upon its own Axis) untill the concave side is next the Abdo-men, it will then pass into the Bladder. if this should also fail, the surgeon should introduce the finger of his left hand into the Rectum, & draw out the sphincter ani so as to prevent the urethra from doubling or falling into folds, it then may be pushed into the bladder. By one or other of the above methods, it may be always introduced into the bladder. After it has entered the bladder, it should be moved about in various directions, in order to feel where the stone lies: as soon as it strikes the stone the clicking of it will be distinctly heard.

If it cannot be felt while the patient is in a recumbent posture; he should be desired to stand up: if this fail, the surgeon should pass his finger into the Rectum, & endeavour to elevate the bladder as much as possible, if this should also fail, the patient should lay down, and his pelvis should be raised higher than the other parts; in this way I once discovered a stone in the Bladder, when all the other methods had been repeatedly tried without any success.

Many medicines have been recommended, and given for destroying the stone, but none have been as yet found to produce that effect. Lime water, Uva Ursi &c. have been used, but they give but little relief. In a paroxysm of the stone bloodletting, warm bath, demulcents and Opium are very useful in relieving it.

When small pieces of calculi are lodged in the urethra, & cannot be discharged it becomes necessary to extract it. A pair of forceps with flat sharp edges, have been used, but they do not answer the purpose. I generally make use of a flat probe with a flat hook, or scoop at the end of it, which I find to answer the purpose extremely well. Having previously oiled it, it is then to be passed down the urethra, and beyond the stone, it is then to be drawn up. & the stone

generally

+ The incision should be transversely as it respects the penis —

I have found an injection of laudanum opiate some time before the operation to have a very good effect. it lessens the sensibility of the parts.

+ And a sheet upon it with one end hanging over the table; which is to spread over the surgeons lap

generally comes away with it without any difficulty. If this should fail an incision should be made through the soft parts down upon the stone, & it can then be extracted. The incision through the skin should be much longer than that through the other parts, so that the urine when it passes out of the wound it may pass out freely & not get into the cellular substance; for if it does it will produce violent inflammation.

As no medicines have been found capable of dissolving the stone, it becomes necessary to perform an operation called Lithotomy. Of which I am next to treat of.

Of Lithotomy.

A few days before performing the operation, the patient should be put upon a strict antiphlogistic regimen; and the day before the operation a cathartic should be given to the patient, & the bowels freely emptied; the parts should be shaved: & about an hour before the operation the rectum should be washed out with a glyster. The patient should be placed upon a dining table, with its leaves shut down: the table should be covered with two blankets, and a pillow put upon it.

Having provided yourself with basons

&

+ Another assistant should take hold of the staff & push it so as to make it project upon the right side of the perineum: & hold it firm and steady. —

of warm water, towels, sweet oil, needles, ligatures, tenaculum &c.a together with the necessary instruments for performing the operation which are, a sound with a groove in it, a scalpell, a sharp pointed bistoury, a gorget, a blunt pointed bistoury, forceps large, small and curved, a scoop & a syringe and pipe.

Having placed the patient on the table the grooved staff is first to be passed into the urethra: a ligature is then to be tied round each of the wrists of the patient, he should then be desired to grasp each foot with his hands, and the ligature is to be passed round the foot and ancles, & the hands made perfectly secure to the feet: an assistant is next to be placed upon each side of the patient in order to support his legs. for this purpose the knee of the patient should be placed in the assistant's axilla, and the assistant should grasp the foot of the patient with both his hands. having secured the patient in this way. The surgeon should next be seated immediately before the patient: and with a scalpell should make a free incision through the soft parts, beginning about half an inch behind the scrotum, continuing it backwards and outwards, to about half way between the anus and tuberosity of the ischium it should also go through the perinæ muscles, — and the membranous part of the urethra, and prostrate gland should be exposed. the urethra is then to be divided with the sharp pointed bistoury: the groove of the staff may then be

easily

easily felt through the incision; the beak of the Gorget is next to be placed in the groove of the staff and the prostrate gland, & neck of the Bladder is to be divided, by pushing the instrument along the groove: the gorget is then to be withdrawn, and the surgeon should introduce his finger in order to see whether he can feel the stone: having felt it, the forceps is next to be introduced shut, as soon as the stone is felt by them, the surgeon should open the handles with both his hands, and grasp the stone; the finger is then to be introduced again to see whether it has grasped the stone by its shortest diameter if so it may be immediately extracted; if the incision should not be large enough for the stone to pass easily out, it should be first dilated, by passing the finger into the bladder, and a blunt pointed bistoury upon the finger, & the incision made larger, as soon as this is done the stone may be extracted. If the stone is found to be too large to be extracted through the incision which is made, a pair of forceps with a screw upon the handles, is to be introduced & the stone to be taken hold of, the screw is then to be turned untill it breaks the stone in pieces, they are then to be extracted by means of the forceps and scoop: the very small pieces may be washed out by injecting warm water or barley water which answers

the

† having it previously well oiled

the purpose better, with a brass syringe, and a long pipe fixed to it. After the operation the patient is to be placed in bed upon his back with his knees close together, & the wound should be dressed with adhesive plaister & lint: and a dose of laudanum should be administered.

Of Fistula in Ano.

This is a disease situated near the Anus, and it always arises from an inflammation in the cellular and adipose membrane: it is attended with considerable pain, and sometimes with tenesmus, and bearing down pain especially in females. This inflammation generally terminates in suppuration; and a small opening is made through which the pus escapes, which in a short time becomes callous, & has no disposition to heal up: it then forms what is called a fistula in Ano. In order to determine whether the fistula is complete or not, the surgeon should introduce his finger into the rectum,+ and pass a probe into the fistula, if it be complete the bare probe will be felt upon the finger in the rectum. Sometimes the fistula is accompanied with a carious state of the vertebræ: they are also sometimes seated in the Glutæi Muscles. Care should be taken

not

not to confound fistula with haemorrhoids.

It arises from the same causes as inflammation in any other part. When called to a patient with an inflammatory tumour near the Anus, we should endeavour to prevent it from becoming a fistula. This is to be done by using the antiphlogistic regimen, opium bloodletting, purges, leeches, &c. are to be diligently used. We are however seldom called to this disease untill suppuration has commenced: if the pus can be felt fluctuating underneath the skin it should be immediately opened, and the antiphlogistic regimen administered.

When the fistula is incomplete and the external opening very small, the pus gathers in the cavity faster than it can escape; a constant irritation is kept up, and the edges become callous. Sometimes the external opening heals up: and the patient supposes he is getting well, pus however collects again, & it bursts in a new place.

When the fistula is complete (i.e.) when it passes into the rectum, whenever the patient goes to stool, some of the faeces passes into the fistula, which irritates it & prevents it from healing. Improper dressings sometimes prevent it from healing. The general health of the patient has also an effect upon it. In general an operation becomes necessary in order

(a)
Cedar Stick
Lancet and Pincer
(b)
Leather Thong
(c)
Curved Instrument
(d)

order to effect a perfect cure. For a more particular account of this disease & of the manner of performing the operation I refer you to the work of Mr. Pott.

In order to perform the operation for a complete fistula the surgeon starts passes his finger into the Rectum, a blunt pointed bistoury with its blade covered with a piece of waxed linen is to be passed into the fistula untill the end of it comes in contact with the finger, the waxed linen which covered it is then to be pulled away by an Assistant, & the finger and bistoury are to be drawn down together. the bistoury cuts through as it passes down: the wound is then to be dressed with lint. When the fistula opens so high up in the rectum that it cannot be felt by the finger, it becomes necessary to perform the operation after the manner recommended by Mr. Desault: which is to pass a piece of a smooth cedar stick (a) up the rectum as high as the opening of the fistula, A small canula with a piercer (b) made to fit it is to be passed up the fistula untill it touches the cedar in the rectum the piercer is then to be pushed through into the cedar stick & a complete fistula is made, the piercer is then to be withdrawn, and the cedar stick also, the canula to be left in the fistula a curved instrument (d) with an eye at the end of it is next to be passed up the rectum to the canula a piece of leaden wire (c) is to be passed up through the canula, & through the eye of the instrument

in

+ This method should be made use of where an artery passes in such a manner as to be cut in performing the operation - very often great hemorrhage takes place from it.

Prolapsus Ani. It very seldom occurs in adults - but most frequently in infants & children: - The parts should be returned as soon as possible after they have protruded which it most commonly does when the patient evacuates the contents of his bowels - & applications astringents &c are to be used - also gentle laxatives - The most beneficial remedy I have ever made use of is rye meal & sugar, it is gently laxative, & the faces are made worse by it as to be evacuated without causing irritation. —

in the rectum; by turning the instrument in the rectum, the wire is twisted round, & cannot get unfastened, the instrument is then to be pulled out of the rectum, & the wire along with it, the canula should then be withdrawn, & the two ends of the wire should be brought together & twisted & left to remain there until it ulcerates itself loose. I have never had occasion to perform the operation in this way. ×

When seated in the perinaeum I have used a string in this way (& prefer it to the knife)

When the fistula is incomplete a sharp pointed bistoury must be used, it should be guarded by a piece of silver broader than the blade put upon it, which can be removed after it is introduced into the rectum by means of a spring. I have also made use of a thimble (a) upon the finger which is in the rectum, for the point of the knife to rest against otherwise you are very apt to stick it in your finger. (a piece of sheet lead put in the shape of a thimble)

Of Aneurism.

An aneurism may be defined a morbid dilatation of the heart, or of the arteries. It may be divided into true and false: Aneurismal swellings are sometimes confined to one part of the artery only, sometimes they go the whole length of the artery.

It

It is owing to a disproportion of blood in the artery, which being weak at that part is not able to react, after it is dilated by the increased quantity of blood.

The remote causes of aneurism are said to be, violent strains, or contusions of the artery, or from its being stretched beyond its tone. The partial cutting of an Artery is assigned by some authors as another remote cause: but the experiments of Mr. Hunter prove to the contrary: it is seldom if ever the cause of aneurism. It appears to be owing to a diseased state of the arteries. In arteries thus diseased ossified spots are to be seen. It does not effect women as much as men: and it is seldom met with in young people. A recent aneurism is known by the tumour which it forms, and its pulsation, though they by no means characterize it. In old aneurisms the pulsation is frequently not to be perceived, owing to the coagulum which is formed. The skin upon the tumour is of its natural colour, but when it is of long standing, and ready to burst, it becomes of a black colour, and resembles very much an eschar made by caustic. By pressing upon a recent aneurism, the tumour may be removed by the blood being pressed out, but as soon as the pressure is discontinued it returns again.

It sometimes happens that a tumour

is

* + The whole of the tumour moves when situated upon the artery: but in aneurism it pulsates at different parts.

Scarpa also says that the sac of an Aneurism is formed by the cellular substance: and not by the dilatation of the coats of the artery: as some surgeons suppose.

(See Scarpa)

is situated upon an Artery: and has the same pulsation as an aneurism: it may be distinguished from it by raising the tumour (if it can be done) it will then not pulsate: if it cannot be raised the difference in the pulsation is sufficient to distinguish it. + - - -

When an aneurism is situated in the Thorax, the pulse becomes slower: and as it increases in size the aneurismal sac, contracts adhesions to the neighbouring parts and causes an absorption of them and sometimes makes its way through the thorax, & produces fatal hemorhage by rupturing externally. It sometimes produces death by its bursting internally: and sometimes by the violent pressure which it makes upon the bronchia. The aneurismal sac is formed by the cellular substance: its coats are commonly absorbed. The artery is diminished in size on that side of the aneurism which is the farthest from the heart, but seldom becomes entirely closed.

When an aneurism takes place on the Extremities: compress & bandage have been used, and it is said they have made a perfect cure: I have tried them but never with success. The patient is generally unable to sustain the great pressure which is necessary to press the artery sufficiently.

There are instances recorded by authors in which a spontaneous cure has been effected.

Medicines

Medicines have been used, rest, low diet, gentle bleedings &c. but they are all ineffectual.

The most frequent situation of aneurism is in the Ham, where it receives the name of <u>popliteal aneurism</u>. The first symptoms attending it are throbbing, and swelling: and if prefed pulsation is distinctly perceived: as it increases in size it produces a numbness of the limb, and pain which in a short time becomes excruciating the limb also becomes adematous from the pressure of the tumor upon the great nerves.

The treatment which the old surgeons made use of in the cure of Aneurism, was to apply a Tourniquet round the thigh very tight so as to stop the circulation of the blood. they then made an incision down through the soft parts & into the sac: and removed the coagulated blood. they then searched for the orifices of the arteries & applied ligatures upon them: the parts were then closed & drefed: it generaley did very well for a few days but as soon as the ligatures slaughed off the ends of the arteries not uniting, hemorrhage ensued: and amputation was the only resource: which was generally done.

Finding that this method was ineffectual it was the custom among later surgeons to amputate in every case of aneurism, without attempting first to take up the artery.

Mr.

Mr. Hunter supposing that the reason why the arteries did not unite when a ligature was applied upon them, was owing to their being in a diseased state: he therefore proposed to cut down to the artery in the middle of the thigh; and pass a ligature round it in that place: which he did in several instances, and with complete success. I have followed his method, and find it to be very effectual.

When the tumour is very large, and the parts around it very much prepared I generally before tying up the artery make an incision into the sac, and remove the coagulated blood; in order to allow a free circulation through the small arteries: but if the tumour be small there is no necessity for opening the coagulated blood will all be absorbed. –

In performing the operation, a tourniquet is first put round the Thigh, but loosely because it is desirable to have the pulsation of the artery during the operation as it may be performed with much greater ease: an incision is then to be made about four inches long, just above the middle of the Thigh, so as to expose the internal edge of the Sartorius Muscle after dissecting round the edge of the muscle & turning it a little out of its place, the pulsation of the artery may be felt, which leads you of course down to it; the fascia on each side of the artery is next to be

dissected

the piece of flat bottin answers the purpose extremely well

dissected away, it will then be very easy to pass a blunt curved probe, or needle armed with a double ligature round the artery.

In order to determine whether you have got the right artery, pressure should be made upon it before you tie it. then by putting your hand upon the aneurism, if no pulsation can be felt, you are sure you have got the right artery: it is sometimes the custom to tie the artery & drop the wound, & very often it does well enough, but it sometimes happens that it causes pain, & when the ligature sloughs off sometimes hemorhage ensues. I have therefore been in the habit of applying two ligatures one just above the other, & then cutting the artery in two between the ligatures: in this way any ill consequences are avoided. As the artery contracts a great deal as soon as it divided it sometimes happens that owing to its contraction & the pressure of the blood upon the ligature it slips off: in order to prevent this one end of the ligature should by means of a sharp pointed needle, be passed through the ends of the artery, & then tied, it will then be impossible for it to slip: this method is recommended by Mr Abernethy. – The ends of the ligatures are then to be brought out at the wound and the edges of it are to be approximated ~~together~~ & kept so by adhesive plaister, and by compress and bandage on each side of the

wound

+ Mr. Abernethy says that he has tied the external iliac artery in cases of femoral aneurism: and with complete success: the limb being supplied with blood from anastomosing branches.

Aneurismal tumours are sometimes cured by a natural process: (viz) by the coagulum of blood passing under the cellular substance surrounding the artery & pressing its sides together so as to cause them to unite

Aneurism of the Brachial artery sometimes arises from bleeding: by the lancet piercing through both sides of the vein & penetrating into the artery under the vein. If the orifice of the vein & artery correspond with each other the blood will flow immediately into the vein & dilate it: adhesion will form around the orifice & there will be a complete canal formed between the artery & vein: this kind of aneurism may be cured by passing a ligature round this canal so as to cut off the communication between the artery & vein: When an aneurismal sac is formed between the artery & vein by the cellular substance: the artery should be tied above & below the sac: & the tumour taken out. —

wound, which are to be fastened by a bandage passed round the Thigh. for it is desirable to make it heal by the first intention and as fast as possible in order to prevent suppuration. At the end of three or four days the ligatures slough off and the patient very ~~fro~~ gets well. + I think that pressure very gradually applied, with care might be made so effectual as to cause the artery to be obliterated. ++

Of the Diseases attending Respiration and Swallowing.

It becomes necessary in some instances to make an incision into the Trachea, in order to prevent persons from suffocating from certain substances getting into the Trachea: this operation is called Tracheotomy: another method has been made use of in later years which in many cases answers the purpose very well (viz) the introducting of an elastic catheter through the glottis, & permitting it to remain there.

Respiration and Swallowing may be prevented by a variety of causes. 1. By Inflammation. 2. By tumors, either in the Trachea, or in such a situation as to press upon it. In some instances the

tongue

tongue becomes so much swelled from the use of Mercury as to prevent respiration: foreign substances getting into the Trachea, or wounds sometimes make it necessary to resort to an operation.

The introduction of any substances into the Trachea produces at first violent coughing, nausea, vomiting, & spasmodic affections: but it is possible to introduce an elastic catheter into the Glottis without its proving injurious: at the first it produces coughing &c. but this soon subsides, and the catheter may be left in as long as it is necessary. When the tumour is situated in the mouth, the catheter should be introduced through the nose. It used formerly to be the custom to perform the operation of Tracheotomy in every case of obstruction of the windpipe: but the introduction of the catheter has of late years superseded it and appears to answer the purpose quite as well, is less painful, & is much easier performed.

In some instances it becomes necessary to perform the operation of opening the Windpipe. Where foreign substances are lodged in the Trachea, & cannot be coughed off, or in cases of polypus it is then proper to perform the operation

of

of Tracheotomy. If there be any substance lodged in the Glottis, and there is danger of suffocation, no time should be lost, but an incision should be made immediately, below where it is lodged, and a small probe introduced through the orifice, and the substance pushed up. — As soon as any thing falls into the windpipe, it immediately excites violent coughing, difficult respiration, and symptoms of suffocation very soon take place. if it be not coughed up very soon the symptoms will sometimes subside, & the substance will remain there a considerable time without producing any injury. When the flexible catheter is used it should be of large diameter and twice the length of that made use of for the urethra. the instrument should be taken hold of like a pen, and introduced into the mouth or through the nose, according to the nature of the case. as soon as it is arrived at the glottis, it will produce coughing, tickling pain and if a flame of a candle be placed before it it will be blown to one side; when it passes into the Oesophagus, it does not produce coughing, neither does it effect the flame of a candle when placed before it: in this way you can easily ascertain which of the cavities it has entered; If it has passed into the one you wished it is then to be fastened to the patient nightcap, a piece of gauze should be tied over

the

the catheter, and it should be taken out every two or three days in order to clean it.

The operation of making an incision may be performed in two places; one at the lower part of the Trachea: the other between the cricoid & thyroid cartilage: the former is called Tracheotomy; the latter Bronchotomy.

Tracheotomy consists in making a puncture through the cartilaginous rings.

Bronchotomy consists in dividing the membrane between the cricoid & thyroid cartilages.

The latter is said to be the best method because there are fewer arteries there, and of course less hemorrhage ensues: and it is not attended with so much pain.

In performing the operation the patient should be seated in a chair with his head reclining a little back: the surgeon is to be placed before the patient, he then searches for the opening between the cartilages an incision is then made with a bistoury through the soft parts; the membrane between the cricoid and thyroid cartilages is next to be divided, a canula is then to be introduced through the incision; and fastened there by means of tape passed round the head, the angles of the wound should be covered with lint and the mouth of the canula covered with gauze. If any substance is to be

taken

taken out the orifice may be enlarged, and if necessary the cricoid cartilage may be cut entirely through, and the thyroid cartilage partly divided without doing any injury. As soon as the substance is removed the wound may be closed up & it will heal very speedily.

Foreign substances are sometimes lodged in the Oesophagus.

When it is a substance that will not injure the stomach it may sometimes be pushed down into it, by means of a piece of sponge tied on whalebone, called a probang. When lodged in the upper part of the Pharynx: the surgeon by pressing down the tongue can sometimes perceive it, and extract it with a pair of forceps: Emetics sometimes have a very good effect: I once saw a peach stone lodged in the Oesophagus vomited up by giving an emetic. In some instances it is impossible to extract the substance, & it produces abscess & suppuration & is discharged sometimes it occasions gangrene.

When the oesophagus is stopped up it is not immediatly dangerous, but it proves fatal if let alone. In attempting suicide persons sometimes cut through both trachea & oesophagus without injuring the carotid arteries: it then becomes necessary to use the catheter. Tumors sometimes by pressing

upon

upon the oesophagus sometimes obstructs it.
Large and scirrhous tonsils, tumours upon the neck and swelling of the tongue sometimes produce it.

When from any of the above causes the patient is unable to swallow: two modes are made use of to convey nourishment to him. viz. by Glysters, or by introducing the catheter as directed by Mr. Desault: The latter method is to be preferred: because we are not able to convey sufficient nourishment to the patient by means of glysters. When the instrument is too flexible, the curved stilette should be introduced with it: After it is introduced nick nips &c. should be passed into it. —

Of Strictures of the Oesophagus.

As this is a muscular canal it is capable of being contracted at certain times Spasms sometimes effect it and produce a narrowness of the part, & prevents the passage of any thing down it. It will prove fatal, if surgical aid be not resorted to. It first begins with a difficulty of swallowing which increases gradually untill fluids only can be swallowed and finally they are prevented from passing it. It then produces emaciation, extreme hunger, & finally death, if surgical aid be not used.
Mr. Hulme advises that the commencement

to

to introduce a bougie, beginning with a small one first, and increasing in size gradually untill the stricture is removed: It should be treated in the same manner as strictures in the Urethra. If these fail he advises the use of lunar caustic, in the same manner as for the urethra. Before applying the caustic, a common bougie should be introduced down to the stricture, the patient is then to shut his mouth, and with his teeth make a print upon the bougie: in order to ascertain the exact length to the stricture it is then to be taken out, and a mark made upon ~~the~~ one with the caustic, at the same distance with the other: it is then to be passed down as far as the mark and to be left there for a considerable time: and it is to be continued untill the stricture is removed.

Of Polypus.

They are fleshy excrescences differing in their density and colour, and originating from the lining membrane of different cavities, as the nose, mouth, rectum &c.

They most frequently effect the nose. It commences with a small pendulous tumour watery ~~[illegible]~~, and the common symptoms

of

+ Hæmorrhois.

We are sometimes called upon to extirpate hæmorrhoidal tumours. — They are most frequently seated upon the verge of the Anus - but sometimes they are situated on the inside, & when the patient goes to stool, they are protruded down & do not easily return:: it is sometimes mistaken for prolapsus ani:: the best method of extirpating them is to pull them out & apply a ligature around them.

of Catarrh: they are of a small red colour, & generally arise from the Os Spongiosa, as they increase in size, the eyes become more watery & in moist weather the disease is augmented and a hoarseness comes on: it assumes gradually the shape of the cavity of the nose, impedes respiration, and it still increases & may be seen through the mouth beyond the soft palate, & hanging by the uvula: much inconvenience arises from the eyes being filled with tears in consequence of the pressure of the tumour upon the ducts to nasen sometimes suppuration takes place; the hearing becomes obstructed by the pressure upon the Eustachian Tube: also a difficulty of swallowing from its pressing upon the velum pendulum palati: sometimes the bone becomes carious, and a very fetid sanies is discharged: the appearance of the face is altered, one nostril becoming much more dilated than the other: in its latter stages the teeth fall out, stupor & coma come on and finally death. Such are the consequences of a disease which in its forming state might be easily cured. Its causes are not well understood. They may be removed either by twisting them off with a pair of curved forceps, or by means of a cannula and wire. +

Where several tumours exist in the breast at the same time, they are scirrhous & not cancerous -

Of Scirrhus and Cancer.

Scirrhus is a hard tumour circum-scribed, without any redness, and is attended with some pain. This tumour when it ulcerates is called a Cancer. Sometimes scirrhous tumours arise from inflammation, sometimes from scrofula. They are sometimes found in the mamma when they are they should be extirpated as soon as possible.

Scirrhus often comes on without any exciting cause; sometimes from blows, contusions, &c. They sometime come on very gradually, and remain for years before they ulcerate. I have known a scirrhus tumour to continue thirty years before it ulcerated. Sometimes it comes on very fast, & will be ulcerated in six weeks time.

Scrophulous tumours are frequently to be met with in the breast of females if blisters and other evacuations do not destroy them, they are cancerous, and must be extirpated.

When it first begins it is attended with some pain, as it increases the veins

around it become varicose, violent shooting pains which are not confined to the part affected the lymphatic glands in or near it, very soon become contaminated: in some instances a fluctuation may be felt, the skin becomes of a dark colour, finally it breaks, and discharges a thin putrid sanies: and is formed into a Cancer.

There are many ulcers which resemble cancer very much, the symptoms attending them are nearly allied to it.

When the tumour is extirpated, it exhibits different appearances, - it is generally of a dense consistence in the middle, sometimes as firm as cartilage, ligamentous white fibres are seen running from the centre to the circumference: between the fibres, the substance is less dense, and when it ulcerates, the whole becomes a bloody sanies.

There are cases of cancers being formed of cysts; and of some which contained hydatids. I have myself seen hydatids in extirpated cancers. When any of the above circumstances are to be seen, we are sure that extirpation was the only way in which it could be cured. It is difficult to distinguish cancer from scrophulous tumours before extirpation. I believe the best method is first to make use of leeches

cups,

cups, blisters, cicuta & the antiphlogistic regimen, and if these should fail they should be extirpated either with the knife or by caustic. It is remarked by authors that indolent tumors very frequently terminate in Cancer.

There is a disease by which parts of a glandular nature are sometimes attacked such as the alæ nasi, the glans penis &c. which are commonly called cancers, but they are not. They appear to be a kind of eating ulcer, which differs from cancer by their admitting of a cure. I have cured them by means of Mercury and the Nitric Acid.

Whether cancer is ~~a~~ contagious Infectious has not been ascertained. Authors differ very much in their opinion respecting it. I believe it is not contagious. The matter from a cancer applied to a sound part, will cause an ulcer, but not a cancer. There is a case related of a woman with a cancerous breast, who communicated the disease to three of her children, two of which died with it. This I think could not have been cancer, but an ulcer which might have resembled it very much. Goodt says that corrosive sublimate will cure the ulceration from the matter of cancer. now it

is

it is certain that corrosive sublimate is entirely inert in genuine cancer.

Cancer has been called an hereditary disease. They occur in almost every age, but most commonly in old people between the 47th and 50th year. The period of the cessation of the menses is said to favour it. They are also situated in various places but in glandular parts most commonly. The breasts of females are its most frequent situation. As the breast are liable to other diseases besides cancer it becomes necessary to distinguish between them.

Sometimes the mamma becomes very large & painful; it becomes tender, and sore; sometimes attended with redness, but little pain, but fever, sometimes the skin is not coloured. The remedies for it are copious bloodletting, purges, blisters, cups, low diet, &c. If these do not remove the swelling entirely, there is no other inconvenience will arise from it, but from its weight. In inflammation there is heat & throbbing, sometimes violent shooting pains. The skin coloured, & sometimes suppuration takes place. it is cured by V.S. purges &c. and if any hardness remains Mercury and cicutta will cure it.

Scrophulous tumours are very frequently

frequently to be found in the breasts of females. When several hardened lumps are felt in them they are scrophulous and may be removed by cathartics. When the skin only is effected there is no danger of scirrhus, inflammation takes place, & it will very soon suppurate and heal up.

Hydatids are sometimes found to constitute the tumour.

As it is impossible to ascertain which is scirrhus, and which is scrophula it is best to be on the safe side & extirpate them when practicable.

When the operation is concluded upon, no time ought be lost.

The glands in the Axilla are frequently enlarged: this may arise from sympathy, when it does, they will vary in size, they will sometimes be smaller at other times larger: when they are scirrhus, they continue increasing in size.

Two methods are made use for extirpating cancers, viz the knife and caustic.

The former is much preferable

with

with it we are able to remove all the diseased parts from the sound. but when the caustic is used, a great part which is sound is frequently removed. Patients however are very often so fearful of the knife. that they will not submit to it. we are then obliged to resort to caustic. for this purpose Mr. Healme says equal parts of White arsenic & Sulpher is the best & most powerful caustic.

When the knife is used the patient should be seated before a window, and if the skin be sound a straight incision should be made, & the tumor dissected out. if however the skin is diseased, it should be removed by making two incisions in the direction of the fibres of the pectoral muscle, the gland is then to be dissected off, and if the disease continues into the axilla it should be followed up with the knife, before cutting it off in the axilla, a ligature should be passed round the cellular substance in the axilla in order to prevent hemorrhage, it may then be cut off. the bleeding vessels are then to be tied up the edges brought as near together as possible by adhesive plaister. and you should endeavour to make it heal by the first intention.

When it cannot be removed the best local applications are the leaves of hemlock carrot poultice, belladonna, creta pept. tar-

water

water &c. The internal are arsenic, cicuta, laudanum, nightshade &c — these never cure they act only as palliatives.

Scirrhous tumours are sometimes seated in the Neck. When it attacks the parotid and maxillary gland, or any part of the Face it is called Noli me tangere: from the supposition that all substances which are applied to it irritate it & make it worse. The actual cautery and common caustic has in some instances cured, but it often fails: extirpation should always be used if practicable. The tongue is sometimes effected with it. The Lip is often effected, with cancer, it sometimes begins by a small wart, and sometimes the whole lip is effected: the only remedy for it is extirpation: Calculi are sometimes found in cancers of the lips; I have extirpated one or two in which I found calculi. The eyes are sometimes effected with cancer, & it has been cured: Cancers of the rectum are seldom cured, injections of opium give most relief: The tunica vaginalis testis, bladder, testis, & uterus sometimes become cancerous. They are seldom cured. The penis is sometimes effected, it commences with a small tumour upon the prepuce or glans penis.

When you have arrived to the testicle the incision should be made into the substance of the testicle, in order to ascertain whether it is scirrhous or not.

When the testicle becomes scirrhus the only remedy for it is extirpation. this is to be done by making an incision from the abdominal ring along the course of the spermatic cord down to the bottom of the scrotum, the testicle is then to be dissected away from its attachments and the spermatic cord dissected up to the abdominal ring. a ligature should then be put upon the spermatic cord as high as possible above the indurated parts. it should then be cut in two, & the testicle removed: the parts should then be closed together, and kept so by the interrupted suture: in a short time the ligature will slough off, and the parts will very soon heal.

Of Paracentesis.

In consequence of water forming in the cavity of the Abdomen, and producing the disease called Ascites, we are frequently called upon to make an incision in order to let out the water. In the first place it is necessary to ascertain whether the substance contained in the abdomen is water: this may generally be known

by

Before performing the operation between the Umbilicus and Os Pubis, the bladder must be emptied.

by putting one hand on one side, and striking the other side with the other hand, if it contains water an undulation may be felt. We are sometimes however deceived, instead of water we occasionally find, a gelatinous or jelly like substance which will not pass out through the canula.

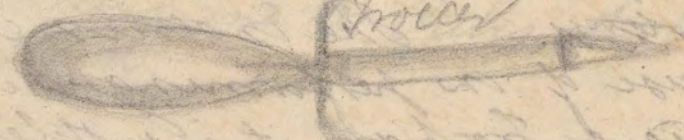
There are two places upon the abdomen in which the operation is generally performed. The first is about half way between the superior anterior spinous process of the Ilium, and the umbilicus — the other about half way between the umbilicus & os pubis in the <u>linea alba</u>. I prefer the latter place because in the other the epigastric artery is often wounded: it often changes its course, and I have known of its being wounded in the operation and the hemorrhage from it causing the death of the patient. in performing the operation between the umbilicus & pubis there is no danger of wounding any artery. The instruments generally made use of in performing this operation is called a <u>Trocar</u>, it is a stilette with a canula made to fit it. the stilette should be lancet pointed. I prefer using a common lancet, - I first make an incision with

the

The patient is very apt to become faintly – for which reason carefully draw the wound –

Bandage

Forceps



the lancet into the abdomen and then introduce a camula with a piece of waxed liner put round it of a conical shape, so as to fill up the orifice exactly and prevent its leaking. or I make use of a double camula. In using the Trochar all that is necessary is to plunge into the abdomen, the stilette should then be withdrawn, & the camula left in it through which the water will flow. a bandage should be put round the abdomen and tightened as the water flows, out so as to make pressure upon the parts. As soon as the water is all evacuated the sides of the wound should be brought together, a piece of lint should be put immediately over the orifice, and confined there by a piece of adhesive plaister: and a bandage.

Of Hare Lip.

This disease is called hare lip from the resemblance which it bears to the lip of the hare. It most commonly is found to exist at birth: it is generally seated in the upper lip: sometimes but one slip, at other times two slips are found in the same lip. When it is done by accident, and you are called while it is recent the parts should be immediately approximated

and

and kept so by the interrupted suture

The hare lip should not be operated upon infants untill after they are two months old. The first thing to be done in performing the operation is to pare away both sides of the slip, and make both sides perfectly raw: this may be done with a pair of sharp scissors: the edges are then to be approximated and kept so by passing two silver needles with steel points to them made very sharp; the upper needle should be passed through first, and a ligature passed round it in the form of the figure eight: the other needle is then to be passed through at the bottom of the lip and secured by the ligature in the form of figure of eight in the same manner as the other. the steel points should then be removed from the needles, to prevent them from injuring the patient: in a few days the edges of the wound becomes united, the needles may then be drawn out: this may be done without disturbing the ligatures: and they should be left on for they act as a seat, and keeps the parts more firmly united & it heals much sooner. In double hare lip only one should be done at a time: after that gets well the other may be done. – Both may be done at once

Of Amputation.

In the preceeding lectures I mentioned to you those circumstances in which it became necessary to perform the operation of amputating the part. I shall however briefly recapitulate them.

1. In the first place, in all those cases of compound fractures, where the skin and soft parts are so much lacerated as to prevent the circulation of the blood through the limb: it is necessary to amputate the limb above the injured parts.

Profuse hemorrhages have been supposed to be a sufficient cause for amputating, where the bleeding vessel could not readily be come at: but I have told you in my Lectures that it is not necessary, the bleeding vessel may always be taken up in some way: it is therefore not necessary to perform the operation on that account.

2. A contusion or great laceration of the soft parts, (without fracture) where the blood is prevented from circulating through the limb, or where the cavities of large joints are exposed; it is then proper to amputate.

3. When from great violence a part of

a

a limb is torn off: it is then necessary to amputate: because the parts are so ragged as to make it very irritable: & by amputating immediately after the accident, the irritability is removed: and it is reduced to a common wound.

Mortification is supposed to be another cause why amputation should be performed: this should not be done while the mortification is progressing.

I mentioned to you when treating of mortification that it is not necessary to amputate in this case: because when mortification takes place, and the parts slough off, nothing but the bone is left, all that is necessary then is just to saw off the bone.

4. In white swellings of the joints it sometimes becomes necessary to am-
-putate, in order to save the life of the patient: even though it be attended with night sweats, emaciation & diarrhea, it may be performed: and I have seen it performed in such cases with complete success.

5. In large exostoses it sometimes becomes necessary to amputate, espe-
-cially when the moving of the limb is

very

very much impeded. — —

6. Another cause for performing the operation is an extensive caries of a bone. Where a small portion of bone only is caries it is not necessary: because that will be removed by the exfoliation which takes place.

7. In fungous hematodes, which are of a cancerous nature, and sometimes in cancer, it is necessary to amputate.

8. There are tumours which sometimes require amputation, especially if they be seated near a Joint.

Having briefly stated to you those cases which require amputation, I am next to mention to you the method of performing the operation. —

1. Amputation of the Finger.

It is not often necessary for us to amputate the finger: but it sometimes becomes requisite. In order to do it, in the first place it is necessary to feel for the joint, as that is the best place for performing the operation: having ascertained the precise

situation

situation of the joint an incision is then to be made with a sharp scalpell, a little below the joint, through the skin & soft parts, it is then to be dissected up to the joint and the ligaments at the joint cut off. As the arteries are very small it is seldom necessary to apply a ligature upon them; generally slight compression with the bandage & lint suppresses the hemorrhage: after the operation is performed the integuments are to be brought over the divided surface & as near together as possible, they are to be kept so by a strip of adhesive plaister, a piece of lint, over that, and a bandage over the whole.

Amputation of the Thigh.

In performing this operation it is necessary to be provided with the following instruments. 1. A bandage rolled up at one end so as to form a compress to be placed upon the artery, 2. A Tourniquet, it would be better to have two tourniquets

for

for it sometimes happens that the strap or buckle breaks: when screwed very tight. 3. A large straight knife, which should be very sharp: the old surgeons made use of a crooked knife, but I prefer the straight knife. 4 a small scalpell: 5. A retractor, made either of linen or leather, the latter should be preferred. 6. A Saw, the teeth of which should be set wide enough to clear the blade of the saw: you should also be provided, with sponges, warm water, needles, ligatures, tenaculum, slips of adhesive plaister, pledgets of lint, spread with emollient ointment, bandages &c.

About an hour before performing the operation a dose of laudanum should be given to the patient: Being furnished with the instruments beforementioned the patient should be placed upon a common dining table, previously covered with two blankets, & a pillow or two upon it: he should be placed so that his legs may hang down over the end of the table. the sound limb should be supported by an assistant: the diseased limb is then to be raised up and firmly supported by another assistant: the surgeon standing upon the outside of the

limb

limb which is to be operated upon is then to apply the compress bandage round the thigh, placing the compress over the artery: the tourniquet is then to be applied over the bandage, with its screw upon the compress: it is then to be screwed so tight as to stop the circulation: this may be known by applying the fingers upon the anterior tibial artery as it passes over the instep: having stopped the circulation completely, an assistant is next to grasp the thigh with both his hands; just above the place of operating, and pull it upwards, in order to make the skin as light as possible the surgeon is then to make an incision with the large knife, through the skin and adipose membrane down to the muscles, beginning on the inside of the thigh: then with a scalpell he should dissect the skin all round from the muscles for about half an inch: & the skin is to be turned back: the large knife is then to be applied, and an incision made through the muscles down to the bone, close along side of the skin which is turned back, taking care not to cut the skin. the retractor is then to be applied round the divided parts, & across the bone, & with it

an

an assistant should draw the muscle as far back as possible. the bone is then to be sawed off: by making long and steady strokes with the saw: having removed the bone, the stump is then to be washed with sponge and warm water. as the femoral artery is very apt to be diseased in old people, I generally take that up by passing a needle round the soft parts, with its concave side next the artery & having enclosed the artery in it, I then take hold of the end of it with a tenaculum & draw it out, & then tie the ligature. In young people, the tenaculum may be used, without the needle: the stump should be frequently washed with sponge & warm water, in order to discover all the arteries which are all to be tied: having applied ligatures upon all the arteries that can be seen: the tourniquet should be loosened & the blood permitted to circulate through the limb, in order to see whether all the arteries are secured: if they are the tourniquet & bandage may then be removed:

A bandage is then to be applied beginning with a turn round the pelvis, and then brought over the thigh, & applied round it nearly down to the edge of the wound: the edges of the wound are then to be brought together, & kept so by strips

of

of adhesive plaister, the ends of the liga-
-ture should be brought out at each angle
of the wound: which should not be completely
approximated, a pledget of lint spread
with emollient ointment is then to be applied
over the end of the stump, & over that a pled-
-get of tow, these are to be secured by
continuing the bandage down the thigh
& over the bottom of the stump: the
tourniquet should then be applied loosely
upon the thigh so that if hemorrhage should
take place it might be easily stopped: the
patient is then to be placed in bed, & the
stump placed upon a small pillow.

Of Amputations of the Leg.

In addition to the instruments
made use of in amputating the Thigh,
it is necessary to have a knife with two
sharp edges called a Catline in order
to perform this operation: Also a retractor
with three ends to it.

In some cases the disease ex-
-tends so far up the leg as to make it
necessary to amputate just below the
knee: but sometimes the foot is only
the diseased part, it may then be amputa-
-ted just

-ted just above the ancle: if it should be a person whose circumstances does not require him to labour hard, for constant exer-cise upon the new cicatrix frequently produces inflammation, & if care be not taken ulcera-tion: I therefore think it is best if it should be a person who is obliged to labour, to take it off just below the knee; the knee may then be bent, & make a firm support to rest upon & the projection of the stump behind, will not be so much in the way, as if it had been taken off at the ancle.

In order to perform this operation the patient is to be placed in the same posi-tion as for amputating the Thigh: an assistant is then to grasp the leg and draw the skin up as tight as possible the surgeon is then to make an incision round the leg in an oblique manner (the older surgeons made a straight incision) but I prefer the oblique) so as to make a kind of flap to cover the end of the stump the scalpell is then to be used & the skin dis-sected from the muscles, & turned back, an incis-ion is then to be made through the mus-cles down to the bone: the cattine is then to be passed between the bones, & the parts cut away; the retractor is then to be ap-plied with one end between the bones, & with it an assistant is to draw up the muscles,

the

the saw is then to be applied; the fibula should be sawed off first, then the tibia: the stump is then to be washed by means of a sponge & warm water, the arteries are to be searched for and tied, and it is then to be dressed in the same manner as the Thigh. –

Of the Venereal Disease.

It is a disease which occurs very frequently in the practice of a physician. It is produced by a poison formed in the Genital organs, and is commonly communicated by the connection of the sexes. It is not (as some suppose) necessary that the skin should be ruptured in order to produce this disease. Its primary symptoms are gonorrhoea and chancre, to which some add Bubo. It is extremely doubtful whether gonorrhoea produces chancre, or chancre, gonorrhoea. It is certain that gonorrhoea often

runs

runs its course without producing chancre.

Many experiments have been made by different persons in order to ascertain this point: but they differ very much in their opin-
-ions: Mr Hunter in his experiments which he has related asserts that gonorrheal matter produced both chancre & confirmed syphilis. Dr Thruston says that in the experiments which he made with gonorrheal matter, neither gonorrhea nor chancre was produced: the experiment which he performed was by dipping lint into gonorrheal matter and introducing it into the urethra: & it had no effect. Now his experiments prove too much: for it ought to have at least pro-
-duced gonorrhea: it is therefore certain that the matter which he made use of was too much diluted

It is supposed by some that mercury is never necessary in order to cure gonorrhea: but it is in chancre and lues venerea.
This is not always the case: gonorrhea sometimes requires mercury especially if it is attended with bubboes

Gonorrheal matter is only a modifi-
-cation of the venereal virus: It exists in the urethra as a grade of lues venerea and I believe whether there be ulceration or not, gonorrhea is Syphilis of a mild grade.

Of Gonorrhoea.

Gonorrhoea is a preternatural discharge from the genital organs. It is seated in the urethra in men, and in the vagina in women. It comes on at various intervals after the disease is contracted, from a few hours to seven or eight days. It most commonly appears from 3 days to eight days after being infected. It sometimes does not appear for, six, seven, eight, and even nine weeks after having contracted it.

Sometimes it appears without any premonitory symptoms: but most generally it is preceeded by inflammation. It was the ancient opinion that the discharge from the urethra, was owing to ulcers formed within it: this opinion has of late years, been denied: it is now clearly ascertained that it often exists without any ulcers being formed. It is sometimes difficult to distinguish gonorrhoea from other discharges which sometimes effect those parts. Gout sometimes attacks the urethra, produces a discharge from it.

The premonitory symptoms of this disease are, a severe itching in the urethra and

and glans penis, redness at the orifice inflammation soon comes on, a discharge of pus takes place. (sometimes a discharge of pus is the first symptom) pain of a pricking or scalding nature after discharging the urine, a sense of fullness and tightness along the urethra, a frequent desire to make water, the urethra becomes contracted, and the urine is discharged in a very small stream, violent erections and chordee sometimes take place, the penis becomes of a red and shining appearance ulceration sometimes takes place, and fistulous ulcers are formed; sometimes opening into the urethra, sometimes in the corpus cavernosum: the discharge is of a white or yellowish colour, sometimes very thin: and sometimes grumous blood is mixed with it. The testicles sometimes become very sore and tender: The Glands in the groin sometimes become inflamed from sympathy.

Inflammation sometimes effects the prepuce, it is then called Phymosis, when the skin is drawn back over the Glans penis and contracted there it is called Paraphymosis. It sometimes effects the corpus cavernosum, and produces permanent "chordee". During this chordee hemorrhage frequently takes place from the urethra. Inflammation sometimes ends in Gangrene

These symptoms are not always combined together, & are not all to be seen in every case.

The

The symptoms in women are much milder - commonly there is only a discharge from the vagina. When the urethra is effected there is a scalding, and desire of voiding the urine very frequently.

Of the Cure of Gonorrhoea.

Those who consult us in this disease, are always extremely anxious for a speedy cure. It is by no means certain for us to determine when it will be cured. It is sometimes in our power to cure it in a few days, sometimes it baffles our effects for months. Where the gonorrhoea is seated in the extremity of the urethra, it is generally cured in eight or ten days. Where the urethra is deeply effected, and the prostrate gland inflamed it is very obstinate to cure. There are instances of persons getting this disease whilst under the use of mercury in Lues Venerea. The design in promoting a cure is to change the nature of the parts, & prevent their morbid secretion.

The remedies for this disease are general and local.

In the early stage of the disease if the inflammatory symptoms run high

the

the antiphlogistic regimen should be used. - active purges of calomel & jalap, or salts abstinence from ardent spirits. - bloodletting is not in every instance necessary, but it is sometimes of very great advantage.

Persons of a weak constitution, opium should be given, the depleting remedies should be used sparingly, - sometimes the bark is necessary. If there be no inflammatory symptoms, the antiphlogistic regimen should not be used; the remedie are demulcent drinks they act by cleansing the parts, and removing the matter which is formed - they are balm tea, flaxseed tea, barley water, molasses and water &c. - little exercise - diuretics in some instances these medicines have performed a complete cure. Nitre and turpentine have been used as diuretics. Balsam Copaiva from twenty to thirty drops. -

Powdered resin mixed in syrup, ten grains of it taken two or three times a day.

If consulted when recent you will commonly find the penis, red, and smooth and a small swelling at the end of the urethra, ardor urinæ, burning & scalding and a discharge of pus. In such instances the membrane of the urethra only is effected. Where these symptoms only exist a purge of calomel & rhubarb, or salts, abstinence

from

from wines & fermented liquors, and a mild astringent injection performs a cure. The following may be used. Sulph: Zinci grs viij Sac: Saturni grs v Aquæ ℥viij. to be injected five or six times a day. very little exercise should be used. If inflammation should supervene bloodletting, & the antiphlogistic regimen should be used. The strength of the injection should be increased if the running continues – by gradually increasing it we may at the end of several weeks, make it ʒj. of vitriol ℥j. of Sac. Saturni

Corrosive Sublimate is sometimes useful commencing with one grain in eight ounces of water. seven or eight times a day. If inflammation runs high, and the disease extends along the urethra, leeches, and general bleeding, mucilage of Gum Arabic milk, and water or oil warm, is all the injections that can be used. The distress of making water increases as the inflammation extends, & the discharge is very much augmented, violent chordee. If the chordee be very violent, opium should be given at night, glysters of opium are very useful.

An injection of from ʒj. to ʒij of Calomel ℥ss of Gum Arabic: ʒij of Laudanum. and ℥vj. of Aquæ, injected four or five times a day: if it occasions any smarting more

water

water must be added. A solution of alum has been used, - also an infusion of oak Galls Sulph: Zinci ℥i: Sac: Saturn: ℥ß: Cor: Sullin: grs ij Aquæ ℥viij is sometimes found useful - -

When the bladder sympathizes and is very irritable, glysters are to be used, - it is attended with a great deal of pain at its neck, a small discharge of urine & mucus, it sometimes causes hectic fever and death. It sometimes becomes necessary to throw injections into the bladder, - barley water answers the purpose very well - a flexible catheter should be introduced into the urethra to the bladder, & the injection passed through it. - If strictures exist in the urethra bougies should be used. -

An occasional symptom attending this disease is swelled testicle, called hernia humoralis. This generally takes place when the discharge is stopped. A sense of soreness in the testicle and a heavy dull pain are its premonitory symptoms. The patient should be confined in a recumbent posture, if practicable, if not a suspensory bandage should be used, bleeding & purges, leeches to the scrotum, fomentations, bread & milk poultice epithasics to the scrotum, vomits, opium to relieve the pain. After the swelling is removed the epididymus frequently remains indurated for a long time, and sometime

it

it continues throughout life: frictions of mercury have been found useful to remove it. Owing to sympathy of the parts there is pain often felt in the small of the back & loins, nausea & vomiting comes on.

The chordee or painful erections of the penis are relieved by the use of Opium; cold water or sugar of lead may be used. Bleeding from the urethra has frequently removed it. rest, low diet, & purges, balsam copaive & turpentine are useful. Where the hemorrhage is very great, a large bougie should be introduced & pressure made by a roller.

This disease is not so bad in women as in men. In women it commonly comes from the vagina, but sometimes the urethra is effected: when it is there is ardor urinæ, & the bladder is more apt to sympathize with it. than in men.

The cure is nearly the same as in men, cleanliness is of the utmost consequence

When the disease becomes chronic very irritating injections are to be used. such as Ca. Sublim. - Tinct. Cantharid &c.

When the remedies are successful, the pain & other symptoms go off gradually the discharge decreases, & after a while it subsides.

Very

Very often after all the symptoms goes off a discharge continues called Gleet which is the most obstinate to cure.—

Of Gleet. Whether gonorrhoea be treated by general or local remedies it sometime terminates in Gleet. It is a preternatural discharge of fluid from the urethra in men and vagina in women, without any pain or inflammation. It consists merely in an increased secretion of the fluid naturally secreted from the parts. The remedies for it are tonics, such as the Peruvian Bark moderate diet &c. If these shall fail stimulants are to be used.—active purges balsam copaiva has been found of great advantage. Resin eight or ten grains two or three time a day increased to one scruple. Turpentine sal: mantis.—nitrigo ferri.—cold bath, salt and water bath, are useful. The best remedy is the Tincture of Cantharides, beginning with small doses. Tinct: Cantharid: ℥ss Aqua ℥oj. a table spoonfull three or four times a day.—

Local remedies are bougies injections Sac: Saturni ℥ss. bit Alb: ℥ss. Ca: Sul grs ij Aqua ℥viij.—Solution of Alum &c are sometimes used. If strictures bougies are to be used, if they do not succeed caustics.

Of.

Of Chancre

Chancres are those ulcers which are formed by the application of venereal matter to the cutis - it is most frequently seated in the Genital Organs. Persons who have had a chancre are very easily effected afterwards with them. They do not occur as often as Gonorrhoea. They are generally seated in men between the glans penis & its cutis, - in women, on the surface of the labia nymphae &c. The frenum, prepuce, glans, cutis & sometimes scrotum is effected with chancres. It sometimes take effect in twenty four hours after coition, it sometimes is several weeks before infection. — The number of sores are various from one to twenty, it generally begins with an itching redness, & a pimple forms, without exciting inflammation, & ulceration takes place. When they form on the skin they appear in small pimples which ulcerates & scals, if inflammation takes place, phymosis & para-phymosis are formed. The matter is of a greenish & fetid colour, - slaughs sometimes form & increase the extent of the sores, & sometimes hemorhage. Phymosis and

Para -

Paraphymosis are symptoms of chancre as well as Gonorrhea, & oftener follow chancres, than Gonorrhea. Phymosis consists in a thickness & enlargement of the prepuce. Paraphymosis is when the prepuce is drawn back, swells, and makes a stricture upon the Glans.

The remedies are as follows. It has been cured by extirpation, by caustics & escharotics. In some instances chancres excite inflammatory symptoms so much as sometimes to require depletion. Caustic is by far the best remedy for the extirpation of chancres. The caustic should be repeated untill the ulcer appears red & granulating. The lint applied over it should be spread with simple ointment. Where the ulcer is extremeley large the lapis septicus should be used. When calomel is to be used it should be mixed with simple cerate or Gum Arabic. Mercury should be used with mucilage - Precipitate mixed with simple cerate, & mercurial ointment. Injections of one grain of Corrosive Sublimate or Calomel & Gum Arabic, the penis should be kept up towards the navel. When phymosis or paraphymosis attends it the prepuce should be cut through. Mercury should also be used to prevent lues venerea. If the disease be over

so slight it should be used: if it is probable that a small quantity of mercury only will be necessary, calomel pills of two grains each may be taken every twenty four hours instead of mercury. - Frictions on the inside of the thighs every night with mercurial ointment.

When Gangrene commences, hemorhage also begins, sometimes to an alarming degree, when this is the case styptics are to be used, also, blisters.

When chancres form upon the lips caustic generally cures it. They require the same treatment in women as in men.

Venereal Warts are commonly a consequence of chancres. They have no venereal nature & do not require mercury to cure them. - They should be removed by tying a string round them & after they have slought off, caustic should be used.

Of Buboes.

Buboes are swellings of the lymphatic glands, which arise from the application of the venereal virus to them. They occur in various situations, wherever lymphatic glands are, there buboes may be. They commonly form, in consequence of chancres.

but

but sometimes they are the first symp-
-toms of the disease Dr. Adams says
it is no instance of primary symptom of
venereal disease. Buboes generally
form on the side on which the chancre is
situated. It generally commences with
pain and small tumor in one of the groins
and unless prevented ulceration takes place
very soon - first they are uncircumscribed &
become moveable underneath the skin, but after
a short time become diffused. The colour of
the skin is a remarkable flaming colour.

It is a local disease and the constitution
is uncontaminated at first. — Resolution
should be first effected, - bloodletting local
and general, purges, vomits, and mercury
mercurial ointment inside of the thighs.
Leeches to the tumor & afterwards blisters.
Cathartics every other day and a very low
diet. There are very few instances in
which it is necessary in order to open them
to cut very deep; for they should generally
remain till the skin becomes very thin.
Caustic & the Lancet are the methods for
opening them. Where the buboes are very
large the caustic I think is preferable
but if small the lancet should be used
After the evacuation of the matter poultices
should be applied, if these fail, caustic &

mercurial

mercurial ointment, red precipitate &c.
If of a scrophulous habit the following prescription has been found useful.
Hemlock grs. 54. bar. Sublim. grs. viij. made into 54 pills. For a more particular account I refer you to Adams on malignant poisons. Pierson on Venereal &c.

Of Lues Venerea strictly so called

The different species of this disease if suffered to go on produces what is called Lues Venerea, Syphilis, or Pox.

The parts which are first attacked are the skin, tonsils, nose, mouth, throat, fauces, & sometimes the tongue. In the last stage it effects the periosteum, tendons, & fascia of the bones.

The symptoms occur first in the throat nose, & mouth. It commences with blotches on the skin, and ulcers in the Throat. The tonsils are the usual seat of the inflammation. It is sometimes attended with pains in the head languor, and fever. It is to be cured only by the immediate recourse to Mercury, by frictions, & by the blue pill or calomel taken into the stomach. Fumigations of mercury - nitric acid & Gum Arabic ℥ß. to Aquæ ℥vj. a table spoonful twice a day

day. - caustic is sometimes necessary

Nodes. - They occur upon all the bones of the body, but most commonly upon those which are thinly covered as, the forehead, tibia, ulna, radius &c. -

They are hard circumscribed tumours arising out of bones. Tendons & ligaments are much less the seat of this disease.

Ophthalmia has in some instances been excited by Syphilis, & sometimes from gonorrheal matter to the Eye —

It is cured by a salivation & frictions. For a further account I refer you to the works of Mr. Abernethy & Pierson —

Of Strictures of the Urethra.

The most common situation of the stricture is at the bulb of the urethra. In some instances beyond the bulb, at the membranous part, but this is extremely rare; sometimes about two or three inches from the glans penis. It is either permanent or spasmodic.

1. Permanent. Strictures arise from many

many causes such as violent exercise retaining the urine too long when there is a desire to void it. They may generally be dilated by means of bougies the instrument should be well oiled before it is passed into the urethra.

2. Spasmodic. In this stricture bougies are hurtful, caustics should be applied bloodletting, warm bath &c: should also be used.

Suppression of Urine.

In this disease the patient is unable to discharge the urine, and is attacked with various distressing symptoms.

It arises either from a tumour near the neck of the bladder - abscesses near the Anus - or from the pressure of hemorhoidal tumours. - from a stone in the bladder, getting into its neck - a spasmodic contraction at the neck of the bladder, or any part of the urethra - tumefaction of the prostrate gland. &c -

If it arises from calculi in the bladder Mr Hunters elastic forceps should be introduced, or a bent probe. If from spasms

the

the bougie must be used. If these fail copious bloodletting should be used. Glysters a teaspoonful of Opium with one ounce of the starch.

It sometimes becomes necessary to puncture the Bladder. There are three places in which it may be done. 1. Above the pubis 2. In the Rectum. 3. In the Perinaeum

1. Above the Pubis. When the bladder is felt above the brim of the pelvis, the parts are to be shaved, a small incision is then to be made, & the trocar pushed into it

2. When in the Rectum, - the finger should be passed into the rectum, & passed about an inch above the prostrate gland, it will serve as a director for the curved trocar which is then to be passed up along side of the finger, & pushed into the Bladder.

3. When in the Perinaeum. an incision is to be made between the raphe scroti & accelerators urinae et elevator penis, - the finger is then to be introduced into the rectum, & the trocar must be passed up along side of the prostrate gland into the Bladder ——

7 – 450/10 – 10

7) 4500

6.42

In simple Fracture I have never seen granulation
in any one case — clot of blood —